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ANNUAL CALENDAR

OF

McGILL COLLEGE

AND

UNIVERSITY

MONTREAL

FOUNDED UNDER BEQUEST OF THE HON. JAMES McGILL,
ERECTED INTO A UNIVERSITY BY ROYAL CHARTER
IN 1821, AND RE-ORGANISED BY AN
AMENDED CHARTER IN 1852.

SESSION 1892-93

Montreal:
PRINTED FOR THE UNIVERSITY BY JOHN LOVELL & SON.

1892.

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The *List of Graduates* and the *Examination Papers* of the Session 1891-92 are published separately, and may be obtained on application to the Secretary, or through booksellers.

Governing Body of the University.

VISITOR:

HIS EXCELLENCY THE RIGHT HONOURABLE LORD STANLEY OF PRESTON, G.C.B., P.C.,

GOVERNOR-GENERAL OF CANADA, ETC.

GOVERNORS:

[*Being the Members of the Royal Institution for the Advancement of Learning.*]

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JOHN REDPATH DOUGALL, M.A., Representative Fellow in Arts.
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HENRY T. BOVEY, M.A., C.E., Dean of the Faculty of Applied Science.
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MALCOLM C. BAKER, D.V.S., Elective and Representative Fellow in Comparative Medicine and Veterinary Science.
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ROBERT W. POWELL, M.D., Representative Fellow in Medicine.

(The Governors, Principal and Fellows constitute, under the Charter, the Corporation of the University, which has the power, under the Statutes, to frame regulations touching the Courses of Study, Matriculation, Graduation and other Educational matters, and to grant Degrees.)

OFFICE OF SECRETARY, REGISTRAR AND BURSAR:—

[*And Secretary of the Royal Institution.*]

JAMES W. BRAKENRIDGE, B.C.L., Acting Secretary, Office East Wing, McGill College; Residence, 117 Shuter Street.
SAMUEL R. BURRELL, Clerk, 588 Cadieux Street.

OFFICE HOURS: 9 TO 5.

Professors Emeriti.

[*Retaining their Rank and Titles, but retired from the active work of Instruction.*]

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Emeritus Professor in the Faculty of Arts.

WILLIAM WRIGHT, M.D.
Emeritus Professor in the Faculty of Medicine.

HON. R. G. LAFLAMME, D.C.L., Q.C.
Emeritus Professor in the Faculty of Law.

D. C. MACCALLUM, M.D.
Emeritus Professor in the Faculty of Medicine.

G. E. FENWICK, M.D.
Emeritus Professor of Surgery.

MATTHEW HUTCHINSON, D.C.L.
Emeritus Professor in the Faculty of Law.

HON. J. EMERY ROBIDOUX, D.C.L.
Emeritus Professor in the Faculty of Law.

Officers of Instruction.

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Principal, Logan Professor of Geology and Professor of Natural History. East Wing, McGill College.

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Professor of French Language and Literature. 39 McGill College Ave.

ROBERT CRAIK, M.D.,
Dean of the Faculty of Medicine, and Professor of Hygiene. 1 Prince of Wales Ter. Sherbrooke Street.

N. W. TRENHOLME, Q.C., M.A., D.C.L.
Dean of the Faculty of Law, and Gale Professor of Roman and Public Law. Temple Building, 185 St James St. Rosemont Cote St. Antoine.

HON. J. S. WURTELE, D.C.L.
Professor of Law of Real Estate. 787 Union Avenue.

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Professor of Chemistry, Faculty of Medicine. 54 Beaver Hall Hill.

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Professor of Logic, and John Frothingham Professor of Mental and Moral Philosophy. 111 Mackay Street.

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Vice Dean of the Faculty of Medicine, and Professor of the Theory and Practice of Medicine. 49 Union Avenue.

BERNARD J. HARRINGTON, B.A., Ph.D., F.G.S.
David J. Greenshields Professor of Chemistry and Mineralogy, and Lecturer in Assaying and Mining. Wallbrae Pl., off 256 Univ. St.

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Professor of Surgery and Clinical Surgery. 80 Union Avenue.

WILLIAM GARDNER, M.D.
Professor of Gynæcology. 109 Union Avenue.

HENRY T. BOVEY, M.A., A.M.I.C.E., M.I.M.E., Fellow Queen's College, Cambridge.
Dean of the Faculty of Applied Science, William Scott Professor of Civil Engineering and Applied Mechanics. 31 Ontario Avenue.

CHARLES E. MOYSE, B.A. (London)
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JOHN S. ARCHIBALD, Q.C., M.A., D.C.L.
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C. H. McLEOD, Ma.E.
Professor of Surveying and Geodesy and Lecturer on Descriptive Geometry, Supt. of Meteorological Observatory. Observatory McGill College.

LEONIDAS HEBER DAVIDSON, Q.C., M.A., D.C.L.
Professor of Commercial Law. 146 Metcalfe Street, or 194 St. James.

FRANCIS J. SHEPHERD, M.D.
Professor of Anatomy. 152 Mansfield Street.

FRANK BULLER, M.D.
Professor of Ophthalmology and Otology. 123 Stanley Street.

JAMES STEWART, M.D.
Professor of Clinical Medicine. 939 Dorchester Street

GEORGE WILKINS, M.D.
Professor of Medical Jurisprudence and Lecturer in Histology. 898 Dorchester Street.

D. P. PENHALLOW, B. Sc. (Boston Univ.)
Professor of Botany. McGill College.

G. H. CHANDLER, M.A.
Professor of Practical Mathematics in Faculty of Applied Science, Lecturer in Mathematics Faculty of Arts, and Assistant Superintendent of Observatory. 32 Lorne Avenue.

T. WESLEY MILLS, M.A., M.D.
Professor of Physiology. McGill College.

J. CHALMERS CAMERON, M.D.
Professor of Midwifery and Diseases of Children. 941 Dorchester Street.

REV. DANIEL COUSSIRAT, B.A., B.D. (*Université de France*), *Officier d' Academie.*
Professor of Hebrew and Oriental Literature. 106 Shuter Street.

A. J. EATON, M.A., Ph.D. (Leipsic)
Associate Professor of Classics. 21 Durocher Street.

ARCHIBALD McGOUN, M.A., B.C.L.
Professor of Legal Bibliography, and Secretary of Faculty of Law.
294 Stanley St., or 181 St. James Street.

DUNCAN McEACHRAN, F.R.C.V.S., D.V.S.
Dean of the Faculty of Comparative Medicine and Veterinary Science and Professor of Veterinary Medicine and Surgery. 6 Union Avenue.

MALCOLM C. BAKER, D.V.S.
Professor of Veterinary Anatomy. 6 Union Avenue.

CHARLES McEACHRAN, D.V.S.
Professor of Veterinary Obstetrics and diseases of Cattle. 6 Union Avenue.

JOHN COX, M.A. (Cantab.), late Fellow Trin. Col., Cambridge.
William C. McDonald Professor of Experimental Physics. 28 Hutchison Street.

CHARLES A. CARUS-WILSON, B.A. (Cantab.), A.M.I.C.E.
William C. McDonald Professor of Electrical Engineering, Lecturer on Thermo-dynamics. McGill College.

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Professor of Law of Contracts. 107 St. James Street.

THOMAS FORTIN, L.L.L., B.C.L.
Professor of Civil Procedure and Municipal Law. 1613 Notre Dame Street.

W. De M. MARLER, B.A., B.C.L.
Professor of Notarial Law. 157 St James Street.

HON. CHARLES J. DOHERTY, B.C.L.
Professor of Civil Law. 180 St. James Street.

HARRY ABBOTT, Q.C., B.C.L.
Professor of Commercial Law. 11 Hospital Street.

EUGENE LAFLEUR, B.A., B.C.L.
Professor of Civil Law. N. Y. Life Building, Place d'Armes.

ALEXANDER D. BLACKADER, B.A., M.D.
Professor of Materia Medica and Therapeutics. 236 Mountain Street.

JOHN T. NICHOLSON, B.Sc. (Edin.) *Thomas Workman, Professor of Mechanical Engineering.*	McGill College.
PAUL T. LAFLEUR, M.A. *Lecturer in Logic and English.*	58 University.
R. F. RUTTAN, B.A., M.D. *Assistant Professor of Chemistry, and Registrar Medical Faculty.*	McGill College.
JAMES BELL, M.D. *Associate Professor of Clinical Surgery.*	53 Union Avenue.
FRANK D. ADAMS, M.A.Sc., *Lecturer in Geology and Petrography.*	41 McGill College Avenue.
WILLIAM R. SUTHERLAND, M.D. *Curator of Medical Museum.*	764 Sherbrooke Street.
GEORGE W. MAJOR, B.A., M.D. *Lecturer on Laryngology.*	82 Union Avenue.
WM. A. CARLYLE, Ma. E. *Lecturer in Mining and Metallurgy.*	45 St. Mark Street.
T. JOHNSON ALLOWAY, M.D. *Instructor in Gynæcology.*	934 Dorchester Street.
F. G. FINLEY, M.D. *Senior Demonstrator of Anatomy.*	801 Dorchester Street.
H. S. BIRKETT, M.D. *Junior Demonstrator of Anatomy.*	123 Stanley Street.
R. TAIT McKENZIE, B.A., M.D. *Instructor in Gymnastics.*	Gymnasium, University St.
H. A. LAFLEUR, M.D. *Instructor in Medicine.*	McGill College.
GEO. E. ARMSTRONG, M.D. *Instructor in Surgery.*	1127 Dorchester Street.
J. P. STEPHEN, *Instructor in Elocution.*	McGill College.
JOHN ELDER, M.D. *Assistant Demonstrator of Anatomy.*	Cote St. Antoine.
ELLSWORTH BOLTON, B.A.Sc. *Assistant to Superintendent of Meteorological Observatory.*	Observatory, McGill College.

SESSIONAL LECTURERS IN ARTS.

J. L. DAY, B.A.	Sessional Lecturer in Classics.
H. M. TORY, B.A.	" " Mathematics.
Rev. J. L. MORIN, M.A.	" " French.
W. L. MESSENGER, B.A.	" " English.
NEVIL N. EVANS, M.A.Sc.	" " Chemistry.
W. E. DEEKS, B.A.	Demonstrator in Geology.
CARRIE N. DERICK, B.A.	" Botany.

DONALDA SPECIAL COURSE.

MISS HELEN S. GAIRDNER, Lady Superintendent.	47 Victoria Street.
MISS HELEN O. BARNJUM, *Instructress in Gymnastics.*	24 Union Avenue.

LIBRARY.

MR. H. MOTT, *Assistant Librarian,*	Library, McGill College.

General Statement.

SESSION OF 1892-93.

The Sixtieth Session of the University, being the Thirty-ninth under the amended Charter, will commence in the autumn of 1892.

By Virtue of the Royal Charter, granted in 1821 and amended in 1852, the Governors, Principal and Fellows of McGill College constitute the Corporation of the University; and, under the Statutes framed by the Board of Governors, with the approval of the Visitor, have the power of granting Degrees in all the Arts and Faculties in McGill College and Colleges affiliated thereto.

The Statutes and Regulations of the University have been framed on the most liberal principles, with the view of affording to all classes of persons the greatest possible facilities for the attainment of mental culture and professional training. In its religious character the University is Protestant, but not denominational; and while all possible attention will be given to the character and conduct of Students, no interference with their peculiar views will be sanctioned.

The educational work of the University is carried on in McGill College, Montreal, and in the Affiliated Colleges and Schools.

I. McGILL COLLEGE.

THE FACULTY OF ARTS.—The complete course of study extends over four Sessions of eight months each; and includes Classics and Mathematics, Experimental Physics, English Literature, Logic, Mental and Moral Science, Natural Science, and one Modern Language or Hebrew. The course of study is, with few exceptions, the same for all Students in the first two years; but in the third and fourth years extensive options are allowed, more especially in favour of the Honour Courses in Classics, Mathematics, Mental and Moral Science, Natural Science, English Literature and Modern Languages. Certain exemptions are also allowed to professional Students. The course of study leads to the Degrees of B.A., M.A., and LL.D.

The Degree of B.A. from this University admits the holder to the study of learned professions without preliminary examination, in the Provinces of Quebec and Ontario, and in Great Britain and Ireland, etc.

THE DONALDA SPECIAL COURSE IN ARTS provides for the education of women, in separate classes, with course of study, exemptions, degrees and honours similar to those for men.

THE FACULTY OF APPLIED SCIENCE provides a thorough professional training, extending over three or four years, in Civil Engineering, Mechanical Engineering, Mining Engineering and Assaying, Electrical Engineering, and Practical Chemistry, leading to the Degrees of Bachelor of Applied Science, Master of Engineering, and Master of Applied Science.

THE FACULTY OF MEDICINE.—The complete course of study in Medicine extends over four Sessions of six months each, and one Summer Session of three months in the third Academic Year, and leads to the Degree of M.D., C.M.

THE FACULTY OF COMPARATIVE MEDICINE AND VETERINARY SCIENCE.—The complete course extends over three Sessions of six months each, and leads to the Degree of D. V. S.

THE FACULTY OF LAW.—The complete course of law extends over three Sessions of six months each, and leads to the Degrees of B.C.L. and D.C.L.

II. AFFILIATED COLLEGES.

Students of Affiliated Colleges are matriculated in the University, and may pursue their course of study wholly in the Affiliated College, or in part in McGill College, and may come up to the University Examinations on the same terms with the Students of McGill College.

MORRIN COLLEGE, *Quebec.*— Is affiliated in so far as regards Degrees in Arts and Law. [Detailed information may be obtained from Rev. A. T. Love, B. A., Principal]

ST. FRANCIS COLLEGE, *Richmond, P. Q.* — Is affiliated in so far as regards the Intermediate Examinations in Arts. [Detailed information may be obtained from A. W. BANNISTER, M.A., Principal.]

THE STANSTEAD WESLEYAN COLLEGE, *Stanstead, P. Q.*— Is affiliated in so far as regards the Intermediate Examination in Arts. [Detailed information may be obtained of REV. F. MCAMMOND, B. A., Principal.]

III. AFFILIATED THEOLOGICAL COLLEGES.

Affiliated Theological Colleges have the right of obtaining for their Students the advantage, in whole or in part, of the course of study in Arts, with such facilities in regard to exemptions as may be agreed on, and a number of free Tuitions are granted by the Board of Governors to the Students of these Colleges, when matriculated in Arts.

THE CONGREGATIONAL COLLEGE OF BRITISH NORTH AMERICA, *Montreal.* Principal, REV. WILLIAM M. BARBOUR, D.D., 58 McTavish St.

THE PRESBYTERIAN COLLEGE, MONTREAL, in connection with the Presbyterian Church in Canada. Principal, REV. D. H. MACVICAR, D.D., LL.D., 69 McTavish St.

THE DIOCESAN COLLEGE OF MONTREAL. Principal, REV. CANON HENDERSON, M.A., D.D., 896 Dorchester St.

THE WESLEYAN COLLEGE OF MONTREAL. Principal, REV. GEORGE DOUGLASS, LLD., 228 University St.

[Calendars of the above Colleges and all necessary information may be obtained on application to their Principals.]

IV. MCGILL NORMAL SCHOOL.

THE MCGILL NORMAL SCHOOL provides the training requisite for Teachers of Elementary and Model Schools and Academies. Teachers trained in this School are entitled to Provincial Diplomas, and may, on conditions stated in the announcement of the School, enter the classes in the Faculty of Arts for Academy Diplomas and for the Degree of B.A. Principal, S. P. ROBINS, LL.D., 30 Belmont St., Montreal.

V. AFFILIATED HIGH SCHOOLS, ETC.

The Trafalgar Institute for the higher education of women, Simpson St., Montreal, Principal, Miss Grace Fairley. The High School of Montreal, Metcalfe St., Principal, Rev. J. Elson Rexford, B.A. The Girls' High School of Montreal, Metcalfe St., Lady Principal, Mrs. H. H. Fuller.

Schools which have prepared successful condidates for A.A. *or for matriculation* (*June*, 1891).

High School, Montreal; Girls' High School, Montreal; High School, Quebec; Girls' High School, St. John, N. B.; Aylmer Academy; Coaticook Academy; Cookshire Model School; Cowansville Academy; Danville Model School; Granby Academy; Huntingdon Academy; Inverness Academy; Knowlton Academy; Lachute Academy; Sherbrooke Boys' Academy; Sherbrooke Girls' Academy; Stanstead Wesleyan College; St. John's High School; Sutton Model School; Waterloo Academy; Ridgetown Collegiate Institute; Glencoe High School; Goderich High School; Eliock School, Montreal; Fettes College School, Montreal; Ottawa Collegiate Institute; Woodstock Collegiate Institute; Stratford Collegiate Institute; Dunham Model School; Fredericton Collegiate School; Kemptville High School; Port Hope High School; Owen Sound Collegiate Institute; Albert College, Belleville; Almonte High School; Bishop Ridley College, St. Catherines; Durham High School, Gould and Portage du Fort Model Schools.

ACADEMICAL YEAR 1892-93.

SEPTEMBER, 1892.

1 Thursday	Normal School opens.
2 Friday	Matriculation in Law.
3 Saturday	
4 SUNDAY	
5 Monday	Lectures in Law begin. Meeting Faculty of Law.
6 Tuesday	
7 Wednesday	Meeting of Normal School Committee.
8 Thursday	
9 Friday	
10 Saturday	
11 SUNDAY	
12 Monday	Meeting of Faculty of Law.
13 Tuesday	
14 Wednesday	Meeting of Faculty of Arts.
15 Thursday	Mat. and Sup. Exn's in Classics Exhib. and Scholarship Exam.
16 Friday	Mat. and Sup. Ex'ns in Math's
17 Saturday	Exhib. & Scholarship Exam.
18 SUNDAY	
19 Monday	Mat. & Sup. Ex'ns in English, Logic, Ment. and Mor. Phil. Exhib. and Sch. Exm'ns.
20 Tuesday	Mat. & Sup. Ex'ns in Modern Lang's and Nat. Sc.; Exhib and Sch. Exam'ns.
21 Wednesday	Exhib. and Sch. Ex'ns. Lect's in Arts and App. Sc. begin.
22 Thursday	Meeting of Fac. of Arts at 11.15 a.m.
23 Friday	Summer Essays in Applied Sc.
24 Saturday	Matric. Exam. in Medicine.
25 SUNDAY	Meeting of Governors. Register Medical Faculty opens.
26 Monday	
27 Tuesday	Meeting of Fac. of App. Sc.
28 Wednesday	
29 Thursday	
30 Friday	Meeting of Faculty of Arts.

OCTOBER, 1892.

1 Saturday	
2 SUNDAY	
3 Monday	Session of Medical and Veterinary Faculties begins. Meeting of Faculty of Law.
4 Tuesday	
5 Wednesday	Meeting of Normal School Committee.
6 Thursday	Founder's Birthday.
7 Friday	
8 Saturday	The Wm. Molson Hall opened, 1862.
9 SUNDAY	
10 Monday	
11 Tuesday	
12 Wednesday	
13 Thursday	
14 Friday	Meeting of Faculty of Arts.
15 Saturday	Univ. Athletic Sports.
16 SUNDAY	
17 Monday	
18 Tuesday	
19 Wednesday	
20 Thursday	
21 Friday	Meeting of Governors.
22 Saturday	
23 SUNDAY	
24 Monday	Meeting of Museum Com.
25 Tuesday	Meeting of Library Com.
26 Wednesday	Regular Meeting of Corporation
27 Thursday	Reps. Schol. & Exh. Accounts audited.
28 Friday	Meeting of Faculty of Arts.
29 Saturday	
30 SUNDAY	
31 Monday	

NOVEMBER, 1892.

1 Tuesday	Meeting of Fac. App. Science.
2 Wednesday	Meeting Normal School Com.
3 Thursday	
4 Friday	
5 Saturday	
6 SUNDAY	
7 Monday	Meeting of Faculty of Law
8 Tuesday	
9 Wednesday	
10 Thursday	
11 Friday	Meeting of Faculty of Arts.
12 Saturday	
13 SUNDAY	
14 Monday	
15 Tuesday	
16 Wednesday	
17 Thursday	
18 Friday	Meeting of Governors.
19 Saturday	
20 SUNDAY	
21 Monday	
22 Tuesday	
23 Wednesday	
24 Thursday	
25 Friday	Meeting of Faculty of Arts.
26 Saturday	Medical Matriculation, P.Q.
27 SUNDAY	Exams. in Law.
28 Monday	
29 Tuesday	
30 Wednesday	

DECEMBER, 1892.

1 Thursday	
2 Friday	
3 Saturday	
4 SUNDAY	
5 Monday	Meeting of Faculty of Law.
6 Tuesday	Meeting of Faculty of App. Sc.
7 Wednesday	Meeting of Nor. Sch. Comm.
8 Thursday	
9 Friday	Meeting of Fac. of Arts.
10 Saturday	Examinations in Law.
11 SUNDAY	
12 Monday	
13 Tuesday	Lect. in Law, Arts, Ap. Sc. end
14 Wednesday	
15 Thursday	Christmas Ex. in Law, Art and Applied Science begin.
16 Friday	
17 Saturday	
18 SUNDAY	
19 Monday	
20 Tuesday	
21 Wednesday	
22 Thursday	Christmas Vacation begins.
23 Friday	Meeting of Governors.
24 Saturday	
25 SUNDAY	Christmas-Day.
26 Monday	
27 Tuesday	
28 Wednesday	
29 Thursday	
30 Friday	
31 Saturday	

NOTE.—Meetings of the Faculty of Arts are held at 5 P.M. unless otherwise specified.

JANUARY, 1893.

1 SUNDAY	
2 Monday	
3 Tuesday	
4 Wednesday	Christmas Vacation ends. Meeting of Nor. Sc. Comm.
5 Thursday	Lectures in Arts, Law, Med. & App. Science recommence. Meeting of Fac. of Arts.
6 Friday	
7 Saturday	
8 SUNDAY	
9 Monday	Meeting Faculty of Law.
10 Tuesday	Meeting of Fac. of App. Sci.
11 Wednesday	
12 Thursday	
13 Friday	
14 Saturday	
15 SUNDAY	
16 Monday	
17 Tuesday	
18 Wednesday	
19 Thursday	
20 Friday	
21 Saturday	
22 SUNDAY	
23 Monday	Meeting of Museum Com.
24 Tuesday	Meeting of Library Com.
25 Wednesday	Regular Meet'g of Corporation. Examiners appointed. Annual Report to Visitor.
26 Thursday	
27 Friday	Meeting of Governors.
28 Saturday	
29 SUNDAY	
30 Monday	
31 Tuesday	Theses for M. A. & LL.D. to be sent in

FEBRUARY, 1893.

1 Wednesday	Meeting of Nor. Sch. Comm.
2 Thursday	
3 Friday	Meeting of Faculty of Arts.
4 Saturday	
5 SUNDAY	
6 Monday	Meeting of Faculty of Law.
7 Tuesday	Meeting of Fac. App. Science.
8 Wednesday	
9 Thursday	
10 Friday	
11 Saturday	Exams. in Law.
12 SUNDAY	
13 Monday	
14 Tuesday	
15 Wednesday	No lectures.
16 Thursday	
17 Friday	Meeting of Faculty of Arts. Supplemental Exam's in Arts and Applied Science.
18 Saturday	
19 SUNDAY	
20 Monday	
21 Tuesday	
22 Wednesday	
23 Thursday	
24 Friday	Meeting of Governors.
25 Saturday	Exams. in Law.
26 SUNDAY	
27 Monday	
28 Tuesday	

MARCH, 1893.

1 Wednesday	Meeting of Nor. Sc. Com. Theses for B.C.L. sent in.
2 Thursday	
3 Friday	Meeting of Fac. of Arts.
4 Saturday	
5 SUNDAY	
6 Monday	Meeting of Faculty of Law.
7 Tuesday	Meeting of Fac. of Ap. Science.
8 Wednesday	
9 Thursday	
10 Friday	
11 Saturday	Examinations in Law.
12 SUNDAY	
13 Monday	
14 Tuesday	
15 Wednesday	
16 Thursday	
17 Friday	Meeting of Fac. of Arts. Reports of Attendance on Lects. Lectures in Medicine end.
18 Saturday	Exams. in Law.
19 SUNDAY	
20 Monday	Exam's in Med. begin.
21 Tuesday	
22 Wednesday	
23 Thursday	
24 Friday	Meeting of Governors. Medica Matriculation, P.Q.
25 Saturday	
26 SUNDAY	
27 Monday	
28 Tuesday	Meeting of Fac. of Ap. Science
29 Wednesday	Lects. in Arts and Ap. Sc. end.
30 Thursday	Conv for Degrees in Veterinary Science Ex. in Arts begin.
31 Friday	Good Friday. Easter Vac. begins

APRIL, 1893.

1 Saturday	
2 SUNDAY	Easter.
3 Monday	Meeting Fac. of Law.
4 Tuesday	Easter Vacation ends. Conv. for Degrees in Medicine.
5 Wednesday	Meeting of Nor. Sc. Committee
6 Thursday	
7 Friday	Meeting of Fac. of Arts.
8 Saturday	
9 SUNDAY	
10 Monday	Meeting of Faculty of Law
11 Tuesday	Summer Session Med Fac.
12 Wednesday	begins.
13 Thursday	Lectures in Law end.
14 Friday	
15 Saturday	
16 SUNDAY	
17 Monday	Exams. in Law begin.
18 Tuesday	
19 Wednesday	
20 Thursday	Meeting of Examiners, and of Fac. Arts and Law.
21 Friday	Meeting of Governors.
22 Saturday	
23 SUNDAY	
24 Monday	Meeting of Mu[illegible]am Committee and Faculty of Law.
25 Tuesday	Meeting of Library Committee Declaration of result of Exam's.
26 Wednesday	Regular meeting of Corporation.
27 Thursday	
28 Friday	Convocation for Degrees in Law and Applied Science.
29 Saturday	Convocation for Degrees in Arts.
30 SUNDAY	

MAY, 1893.

1 Monday	Meeting of Examiners for Sch.
2 Tuesday	Examinations. Examinations in Normal School begin.
3 Wednesday	Meeting Nor. Sch. Committee.
4 Thursday	
5 Friday	
6 Saturday	
7 SUNDAY	
8 Monday	
9 Tuesday	
10 Wednesday	
11 Thursday	
12 Friday	
13 Saturday	
14 SUNDAY	
15 Monday	
16 Tuesday	
17 Wednesday	
18 Thursday	
19 Friday	
20 Saturday	
21 SUNDAY	Whit-Sunday.
22 Monday	
23 Tuesday	
24 Wednesday	Queen's Birthday.
25 Thursday	
26 Friday	Meeting of Governors.
27 Saturday	
28 SUNDAY	Trinity Sunday.
29 Monday	
30 Tuesday	
31 Wednesday	Normal Sch. closes for Summer Vacation.

JUNE, 1893.

1 Thursday	Examinations for Matric. and Associate in Arts begin.
2 Friday	
3 Saturday	
4 SUNDAY	
5 Monday	Meeting of Faculty of Law.
6 Tuesday	
7 Wednesday	Normal School Committee.
8 Thursday	
9 Friday	
10 Saturday	
11 SUNDAY	
12 Monday	
13 Tuesday	
14 Wednesday	
15 Thursday	
16 Friday	Declaration of results of School Examinations.
17 Saturday	
18 SUNDAY	
19 Monday	Meetingof Museum Committee.
20 Tuesday	Meeting of Library Committee.
21 Wednesday	Regular Meeting of Corporat'n. Report of Normal School.
22 Thursday	
23 Friday	Meeting of Governors.
24 Saturday	
25 SUNDAY	
26 Monday	
27 Tuesday	
28 Wednesday	
29 Thursday	
30 Friday	Summr. Sessn. Med. Fac. ends.

JULY, 1893.

1 Saturday	
2 SUNDAY	
3 Monday	
4 Tuesday	
5 Wednesday	
6 Thursday	
7 Friday	
8 Saturday	
9 SUNDAY	
10 Monday	
11 Tuesday	
12 Wednesday	
13 Thursday	
14 Friday	
15 Saturday	
16 SUNDAY	
17 Monday	
18 Tuesday	
19 Wednesday	
20 Thursday	
21 Friday	
22 Saturday	
23 SUNDAY	
24 Monday	
25 Tuesday	
26 Wednesday	
27 Thursday	
28 Friday	
29 Saturday	
30 SUNDAY	
31 Monday	

AUGUST, 1893.

1 Tuesday	
2 Wednesday	
3 Thursday	
4 Friday	
5 Saturday	
6 SUNDAY	
7 Monday	
8 Tuesday	
9 Wednesday	
10 Thursday	
11 Friday	
12 Saturday	
13 SUNDAY	
14 Monday	
15 Tuesday	Peter Redpath Museum opened 1882.
16 Wednesday	
17 Thursday	
18 Friday	
19 Saturday	
20 SUNDAY	
21 Monday	
22 Tuesday	
23 Wednesday	
24 Thursday	
25 Friday	
26 Saturday	
27 SUNDAY	
28 Monday	
29 Tuesday	
30 Wednesday	
31 Thursday	

FACULTY OF ARTS.

EXHIBITION, SCHOLARSHIP, &c., EXAMINATIONS, SEPTEMBER, 1892.

Day.	Date	First Year.	Second Year.	Third Year.	Hour.
Thursday.	15	Greek.	Greek.	Greek.	9 to 12
"	15	Latin.	Latin.	Latin Prose Comp.	2 to 5
"	15			Mathematics.	9 to 12
Friday.	16	Mathematics.	Mathematics.	Latin.	9 to 12
"	16			Mathematics.	9 to 12
"	16			Botany.	9 to 12
"	16	Mathematics.	Mathematics.	Ancient History.	2 to 5
"	16			Botany.	2 to 5
Monday.	19	English.	English.	English.	9 to 12
"	19			Logic.	9 to 12
"	19	English.		English.	2 to 5
"	19		Chemistry.	Chemistry.	2 to 5
Tuesday.	20			Mathematics.	9 to 12
"	20			Botany.	9 to 12
"	20		French.	French.	9 to 12
"	20	Grammar and Comp. (Classics.)	General Paper. (Classics.)	English Composition	2 to 5
Wednesday.	21		Mathematics.	Mathematics.	9 to 12
			English.		2 to 5

CHRISTMAS EXAMINATIONS, DECEMBER, 1892.

Day.	Date	First Year.	Second Year.	Third Year.	Fourth Year.
Thursday.	15	Latin.	Latin.	Mechanics.	Astronomy.
"	15		M'matics, P.M.		
Friday.	16	Greek.	Greek.	Greek.	Greek.
"	16			Zoology, P.M.	Latin, P.M.
Monday.	19	Mathematics.	Psychology.	Latin.	Moral Philosophy
"	19	French, P.M.	French, P.M.	Ment. Phil., P.M.	Geology, P.M.
Tuesday.	20	Chemistry.			
"	20	German, P.M.	German, P.M.		
"	20	Hebrew, P.M.	Hebrew, P.M.		
Wednesday.	21	English.			

FACULTY OF ARTS.

SESSIONAL AND HONOUR EXAMINATIONS, APRIL, 1893.

Day.	First Year.	Second Year.	Third Year.	Fourth Year.
March.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.
30 Thurs.	Hebrew	Hebrew	Hebrew.....	Hebrew
April	Easter vacation.	Easter vacation.	Easter vacation.	B.A. Honours.
5 Wed.	Greek.....	Greek.....	Mechanics.....	Ethics. Ethics.
6 Thurs.	Latin....Anc. History	Latin. Composition.	Latin.....	Latin. Latin.
7 Fri.	English.....	English. English.	Ex. Phy- English. sics.	Ex. Phy- History sics.
8 Sat.				
10 Mon.	Geometry and Arithmetic. ...	Mathematics.....	Greek.....	Mechanics and B.A. Honours.
11 Tues.	Trigonometry and Algebra.....	Mathematics...	Astronomy and .... Optics..... ..	Astr'y. and Optics. B.A. Honours.
12 Wed.	French and German.	French and German.	Metaphysics.....	Geology. Geology.
14 Fri.	Chemistry.....	Logic.....	.... Zoology	Greek. History.
15 Sat.	.....	.....	.....	.....
17 Mon.	.....	Botany.....	French & German.	French and German B.A. Honours.
18 Tues.	.....	.....	.....	.....
19 Wed.	Honour Examinations	Honour Examinations	Honour Exam'tions	B.A. Honours.
20 Thurs.	Meeting of	Examiners and Facul	ty.	
21 Fri.	Honour Examinations	Honour Examinations	Honour Exam'tions	B.A. Honours.
22 Sat.	Meeting of	Examiners and Facul	ty.	
24 Mon.	Meeting of	Examiners and Facul	ty.	
25 Tues.	Meeting of	Examiners and Facul	ty. Declaration	of results.
26 Wed.	Meeting of	Corporation.		
27 Thurs.				
28 Fri.				
29 Sat.	Convocation for Degr	ees in Arts.		

The Examinations begin at 9 A.M. and 2 P.M. when not specified otherwise.

FACULTY OF APPLIED SCIENCE.

EXAMINATIONS—1892-93.

CHRISTMAS, 1892.

The days of the several Examinations will be announced by the Faculty during the Session.

SESSIONAL, 1893.

Days.	First Year.	Second Year.	Third Year.	Fourth Year.
W. Mch. 29	Freehand Drawing.	Descrp've Geometry	Descrp've Geometry	Mineralogy (Adv.).
T. " 30	German.	German.	Theory of Structures. German.	Theory of Structures.
F. " 31	Good Friday.	Good Friday.	Good Friday.	Good Friday.
S April 1			Mineralogy (adv.).	Kinematics of Machinery. Mineralogy (adv.)
Sun. " 2	.....	.....	....	.....
M. " 3	Practical Chemistry.	Surveying. Chemistry.	Surveying. Chemistry.	Geodesy.
T. " 4	Mathematics.		Theory of Structures	Theory of Structures
W. " 5		Essay.	Essay.	Essay.
T. " 6		Mechanism.	Mechanism.	Dynamics of Machinery. Th. of Structures.
F. " 7	English.	Exp. Physics.	Exp. Physics.	Assaying.
S. " 8		Practical Chemistry.	Practical Chemistry.	Theory of Structures
Sun. " 9	.....	.....	.....	.....
M. " 10	Mathematics.	Mathematics.	Theory of Structures (adv.).	Theory of Structures (adv.).
T. " 11				
W. " 12	French.	French.	Kinematics of Machinery. Geology.	Hydraulics.
T. " 13			Mining.	Metallurgy.
F. " 14	Chemistry.	Chemistry (a.m.). Zoology (p.m.).	Chemistry.	
S. " 15			Dynamics of Machinery.	Dynamics of Machinery.
Sun. " 16	.....	.....	.....	.....
M. " 17		Botany.		
T. " 18	Mathematics.	Mathematics.	Mathematics.	Thermodynamics.
W. " 19				
T. " 20				
F. " 21				
S. " 22				
Sun. " 23				
M. " 24				

Faculty of Arts.

THE PRINCIPAL (Ex-officio).

Professors:—DAWSON.
JOHNSON.
CORNISH.
DAREY.
MURRAY.
HARRINGTON.
MOYSE.

Professors:—PENHALLOW.
COUSSIRAT.
COX.

Associate Prof.:—EATON.

Lecturers:—CHANDLER.
LAFLEUR.
ADAMS.

Dean of the Faculty:—ALEXANDER JOHNSON, LL.D.
Honorary Librarian:—REV. GEO. CORNISH, LL.D.

[CONTENTS.—*Matriculation*, &c., § I.; *Exhibitions*, &c., § II.; *Course of Study*, § III.; *Examinations, Degrees*, &c., § IV.; *Exemptions*, &c., § V.; *Medals*, &c., § VI.; *Licensed Boarding Houses*, § VII; *Attendance and Conduct*, § VIII.; *Library*, § IX.; *Peter Redpath Museum*, § X.; *Fees*, &c., § XI.; *Courses of Lectures*, § XII.]

The next session of this Faculty will begin on September 15th, 1892, and will extend to April 29th, 1893.

§ I. MATRICULATION AND ADMISSION.

In this University those only who attend Lectures are denominated Students.

Students in the Faculty of Arts are classified as Matriculated or Occasional. Matriculated Students are those who have their names entered in the "Matricula" of the University; they are subdivided into Undergraduates and Partial Students; Non-matriculated are denominated Occasional Students. The conditions of admission for each and for Students of other Universities are given below.

1. UNDERGRADUATES.

Undergraduates alone can proceed to the degree of B.A. Candidates for admission to the First Year, as Undergraduates, are

required to pass the First Year Entrance Examination. The successful Candicates are arranged as First Class, Second Class, and Passed. To the most deserving in the First Class the First Year Exhibitions are awarded. For those who aim at passing only, a minimum course is appointed, and there are two examinations in the year, as follows :—

(1) That held in the first week of June, concurrently with the examinations for Associate in Arts. Schools desirous to take advantage of this may send their pupils for examination to McGill College; or, if at a distance, by sending in to the Secretary of the University the names of Deputy Examiners for approval, with a list of candidates, on or before May 1st, may have papers sent to them. (2) That held at the opening of the session, on September 15th and following days, in McGill College alone.

As the examination is intended as a test of qualification for admission to the classes of the University, certificates of passing are not granted except to those who subsequently attend lectures. Candidates who may have passed the examination are not "Matriculated" until they have paid all the prescribed fees for the session and complied with the other University regulations (see "Directions" below).

First Year Entrance Examination.

(a) For Passing only.

Examinations beginning on June 1st in McGill College and local centres; on September 15th in McGill College only.

Greek.—Xenophon, Anabasis, Book I.; Greek Grammar.

Latin.—Caesar, Bell. Gall., Book I.; and Virgil, Aeneid, Book I., lines 1-300; Latin Grammar. [In 1893, and afterwards, the whole of Aeneid, Bk. I., will be required.]

Mathematics.—Arithmetic, including a knowledge of the Metric system; Algebra to Simple Equations (inclusive), but to Quadratic Equations (inclusive) in June, 1892, and afterwards; Euclid's Elements, Books I., II., III.

English.—Writing from Dictation. A paper on English Grammar, *including Analysis*. A paper on the leading events of English History. Essay on a subject to be given at the time of the examination.

French.—Grammar up to the beginning of Syntax. An easy translation from French into English.

Candidates unable to take French are not excluded, but will be required to study German after entrance.

At the September (but not at the June) examinations, an equivalent amount of other books or other authors in Latin and Greek than those named may be accepted by the Examiners on application made through the Professor of Classics. At the June examination, candidates from Ontario may present an equivalent amount from the books prescribed for the Junior Matriculation Examination of the University of Toronto.

Candidates who at the Examination for Associate in Arts have passed in the above subjects are admitted as Undergraduates.

The Matriculation or Junior leaving Examination accepted by the Universities of Ontario is accepted by the Faculty in so far as the subjects of their programme satisfy the Examiners of the Faculty.

For Candidates from Ontario, Second Class non-professional certificates will be accepted *pro tanto* in the Examination.

For qualifications required of Normal School Students see Normal School regulations.

Candidates who fail in one or more subjects at the June examination, and present themselves again in September, will be exempted from examination in those subjects only in which the Examiners may have reported them as specially qualified.

(*b*) *Higher Examination—For First Class, Second Class and Passing.*

The examination will be held on September 15th and following days in McGill College only. (For Exhibitions, see § II.)

Greek.—Homer, Iliad, Bk. IV. ; Xenophon, Anabasis, Bk. I. ; Demosthenes, Philippics, I. and II. ; or Homer, Odyssey, Bk. VII.

Latin.—Cicero, in Catilinam, Orat. I. and II. ; Virgil, Aeneid, Bk. I. ; Caesar, Bell. Gall., Bks. I. and II.

A paper on Greek and Latin Grammar.

Text-Books.—Hadley's or Goodwin's Greek Grammar ; Arnold's Greek Prose Composition, Exercises 1 to 25 ; Dr. Wm. Smith's Smaller Latin Grammar, and Principia Latina, Part IV. ; or Arnold's Latin Prose Composition, by Bradley.

Mathematics.—Euclid, Bks. I., II., III., IV. ; Algebra to end of Harmonical Progression (Colenso) ; Arithmetic.

English.—English Grammar and Composition.—(Mason's Grammar, omit Derivation and Appendix.)

French (solely as a test of qualification to join the French Class).—Grammar up to the beginning of Syntax ; an easy translation from French into English. Candidates unable to take French will be required to study German after entrance.

SECOND YEAR ENTRANCE EXAMINATION.

Candidates may be admitted into the Second Year as Undergraduates, if able to pass the Second Year Entrance Examination. The regulations for this correspond to those for the First Year, the higher examination being the same as that for the Second Year Exhibitions (see § II.) held in September; or the Candidates may take the First Year Sessional Examinations held in April. There is besides,

For Passing only.

An Examination beginning on Sept. 15th, in McGill College only.

In Classics.—Greek.—Homer, Iliad, Book VI.; Xenophon, Anabasis, Book I. Grammar and Prose Composition.

Latin.—Virgil, Aeneid, Book VI.; Cicero, Orations against Catiline; Grammar and Prose Composition.

[An equivalent amount of other books or other authors in Latin and Greek than those named above may be accepted by the Examiners for entrance into the Second Year, on application made through the Professor of Classics.]

In Mathematics:—

Euclid.—Books I., II., III., IV., VI., with defs. of Book V. (Omitting Propositions 27, 28, 29 of Book VI.)

Algebra.—To end of Quadratic Equations. (Colenso's Alg.)

Trigonometry.—Galbraith and Haughton's Trigonometry, Chaps. 1, 2, 3, 4, 6, to beginning of numerical solution of plane triangles.

Arithmetic.—Elementary rules, Proportion, Interest, Discount, &c., Vulgar and Decimal Fractions, Square Root, Metric System.

In English Literature.—Writing from Dictation, English Grammar, including Analysis, English Composition, English History (Buckley). Essay.

In French.—French Grammar; or (instead of French) *German*, in which knowledge sufficient to enable the Candidate to join the regular class will be required.

In Chemistry,—The Chemistry of the non-metallic Elements and of the more common metals.

[*Note.*—Candidates unable to pass in French or German are not excluded, but they are required to begin German, and to continue the study of it for two years.

2. PARTIAL AND OCCASIONAL STUDENTS.—STUDENTS OF OTHER UNIVERSITIES.

PARTIAL STUDENTS.—Candidates for Matriculation as Partial Students, *i. e.*, taking three or more courses of Lectures, will be examined in the subjects necessary thereto, as may from time to time be determined by the Faculty.

The subjects in which an examination is necessary are :—Latin, Greek, Mathematics, English, French. Candidates are required to appear at the ordinary entrance examinations announced above ; but on application to the Faculty, may, for sufficient cause, have a later day appointed.

OCCASIONAL STUDENTS.—Persons desirous of taking one or two courses of Lectures as Occasional Students may apply to the Dean for entry in his Register, and, after satisfying the professor or the professors of the subjects of the lectures as to their fitness, may procure from the Secretary tickets for the lectures.

STUDENTS OF OTHER UNIVERSITIES may be admitted, on the production of Certificates, to a like standing in this University, after examination by the Faculty.

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3. GENERAL REGULATIONS.

Candidates for entrance into the First Year of the Faculties of Medicine or Applied Science in McGill University may pass in the above examinations.

Every Student is expected to present, on his entrance, a written intimation from his parent or guardian of the name of the minister of religion under whose care and instruction it is desired that the Student should be placed, who will thereupon be invited to put himself in communication with the Faculty on the subject. Failing such intimation from his parent or guardian, the Faculty will endeavor to establish befitting relations.

Every Undergraduate or Partial Student is required to sign in the Matriculation Book the following :—

DECLARATION.

"I hereby declare that I will faithfully observe the statutes, rules and ordi-"nances of this University of McGill College to the best of my ability."

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4. DIRECTIONS TO CANDIDATES FOR MATRICULATION OR ADMISSION.

Candidates are required:—

(*a*) To present themselves to the Dean at the beginning of the Session, and fill up a form of application for matriculation or admission (§ I.).

(*b*) To pass or to have passed the required examinations (§ I.).

(*c*) To produce tickets from the Registrar (§ XI.); and, if not Occasional Students, to sign the declaration in the Matriculation Book. Their names are then entered in the "Matricula," *i. e.*, they are "Matriculated."

(*d*) To present their tickets to the Dean. (Fine, etc., for delay stated in § XI.)

(*e*) To provide themselves with the Academic dress (§ VIII.).

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§ II. SCHOLARSHIPS AND EXHIBITIONS.

General Regulations.

1. A Scholarship is tenable for *two* years; an Exhibition for *one* year.

2. Scholarships are open for competition to Students who have passed the University Intermediate Examination, provided that not more than three sessions have elapsed since their Matriculation; and also to Candidates who have obtained what the Faculty may deem equivalent standing in some other University, provided that application be made before the end of the Session preceding the examination.

3. Scholarships are divided into two classes :—(1) *Science* Scholarships; (2) *Classical and Modern Language* Scholarships. The subjects of examination for each are as follows :—

Science Scholarships :—Differential and Integral Calculus; Analytic Geometry; Plane and Spherical Trigonometry; Higher Algebra and Theory of Equations; Botany; Chemistry; Logic. (For subdivision, see below.)

Classical and Modern Language Scholarships :—Greek; Latin; English Composition; English Language; Literature, and History; French or German.

4. Exhibitions are assigned to the First and Second Years.

First Year Exhibitions are open for competition to Candidates for entrance into the First Year.

Second Year Exhibitions are open for competition to Students who have passed the First Year Sessional Examinations, provided that not more than two Sessions have elapsed since their Matriculation; and also to Candidates for entrance into the Second Year.

The subjects of examination are as follows :—

First Year Exhibitions.—Classics, Mathematics, English.

Second Year Exhibitions.—Classics, Mathematics, English Language and Literature, Chemistry and French or German.

5. The First and Second Year Exhibition Examinations will, for Candidates who have not previously entered the University, be regarded as Matriculation Examinations.

6. No Student can hold more than one Exhibition or Scholarship at the same time, but some of the First Year Exhibitioners may be granted exemption from the Sessional fees throughout their College Course, under Presentation Scholarships from the Governor General. (See below.)

7. Exhibitions and Scholarships will not necessarily be awarded to the best answerers at the Examinations. Absolute merit will be required.

8. If in any one College Year there be not a sufficient number of Candidates showing absolute merit, any one or more of the Exhibitions or Scholarships offered for competition may be transferred to more deserving Candidates in another year.

9. A successful Candidate must, in order to retain his Scholarship or Exhibition, proceed regularly with his College Course to the satisfaction of the Faculty.

10. The annual income of the Scholarships or Exhibitions will be paid in four instalments, viz. :—In October, December, February and April, about the 20th day of each month.

11. The Examinations will be held at the beginning of every session.

There are at present seventeen Scholarships and Exhibitions :—

THE JANE REDPATH EXHIBITION, founded by Mrs. Redpath, of Terrace Bank, Montreal :—value, $100 yearly, open to both men and women.

TEN MCDONALD SCHOLARSHIPS AND EXHIBITIONS, founded by W. C. McDonald, Esq., Montreal :—value, $125 each yearly.

THE CHARLES ALEXANDER SCHOLARSHIP, founded by Charles Alexander, Esq., Montreal, for the encouragement of the study of Classics and other subjects: —value, $120 yearly.

THE GEORGE HAGUE EXHIBITION given by George Hague, Esq., Montreal, for the encouragement of the study of Classics :—value, $125 yearly.

THE MAJOR H. MILLS SCHOLARSHIP, founded by bequest of the late Major Hiram Mills:—value, $100 yearly.

THE BARBARA SCOTT SCHOLARSHIP, founded by the late Miss Barbara Scott, for the encouragement of the study of the Classical languages and literature:— value, $100 to $120 yearly.

TWO DONALDA EXHIBITIONS, open to women in the Donalda Department :— value, $100 and $120 yearly.

EXHIBITIONS AND SCHOLARSHIPS OFFERED FOR COMPETION AT THE OPENING OF THE SESSION, SEPT., 1892.

N.B.—*Two of the Exhibitions, value* $100 *each, and one of* $120, *are open to women (two of these to women alone .* [*See Donalda Department.*]

To Students entering the First Year, four Exhibitions of $125 *and two of* $100.

The First Year Exhibitions will be awarded to the best answerers in the First Year Higher Entrance Examination (see § I.), provided there be absolute merit.

But in subsequently distributing the Exhibitions of higher value among the successful Candidates, answering in the following subjects will be taken into account also :—

1. A re-translation into Latin of an English version of some passage from one of the easier Latin Prose writers. (For specimens see Smith's Principia Latina, Part V.)

2. Euclid, Book VI. (omitting Props. 27, 28, 29), with Defs. of Book V.

3. English :—An examination upon one of Shakspere's plays. For 1892, *Coriolanus;* for 1893, *Macbeth.*

4. French :—Syntax and translation from English into French, in addition to the Entrance course.

To Students entering the Second Year, four Exhibitions of $125, *one of* $120 (*Donalda*), *and one of* $100.

Subjects of Examination :—

Greek.—Homer, Odyssey, Bk. VII. ; Plato, Laches and Euthyphro ; Demosthenes, Olynthiacs, I. and II.

Latin.—Virgil, Georgics, Bk. I. ; Horace, Odes, Bk. I. ; Livy, Bk. XXII.

Greek and Latin Prose Composition.

A Paper on Grammar and History.

Text-Books.—Cox's General History of Greece. Mommsen's History of Rome (abridged). Goodwin's Greek Grammar. Arnold's Greek Prose Composition. Latin Prose through English Idiom (Abbott).

Mathematics.—Euclid (six books) ; Algebra (Hall & Knight's Advanced) ; McDowell's Exercises in Modern Geometry ; Theory of Equations (in part) ; Trigonometry (first four chapters Galbraith & Haughton).

English Literature.—Mason's Grammar. Shakespeare, *As you Like It.* Trench, *Study of Words.*

Chemistry.—Roscoe's Lessons in Elementary Chemistry, as far as page 264.

French.—Darey, Principes de Grammaire Française ; Lafontaine, les Fables, livres III. and IV. ; Molière, l'Avare.

Or, instead of French :—

German.—German Grammar—Grimm, Kinder and Hausmaerchen. Schiller, Der Gang nach dem Eisenhammer.

A candidate for a Second Year Exhibition to be successful must not, at the special examination, be placed in the Third Class in more than one of the ordinary subjects. The award is made on the aggregate of the marks among those who fulfill this condition.

To Students entering the Third Year, two Scholarships of $125 *and two of* $120, *tenable for two years.*

One of these is offered in Mathematics and Logic, and one in Natural Science and Logic, as follows:—

1. *Mathematics.*—Differential Calculus (Williamson, Chaps. 1, 2, 3, 4, 7, 9; Chap. 12, Arts. 168-183 inclusive; Chap. 17, Arts. 225-242 inclusive). Integral Calculus (Williamson, Chaps. 1, 2, 3, 4, 5; Chap. 7, Arts. 126-140 inclusive; Chap. 8, Arts. 150-156 inclusive; Chap. 9, Arts. 168-176 inclusive). Analytic Geometry (Salmon's Conic Sections, subjects of Chaps. 1–13 [omitting Chap. 8], with part of Chap. 14). Lock's Higher Trigonometry; McLelland and Preston's Spherical Trigonometry, Part I. Salmon's Modern Higher Algebra (first four chapters). Todhunter's or Burnside and Panton's Theory of Equations (selected course).
Logic, as in Jevons' Elementary Lessons on Logic.

2. *Natural Science.—Botany*, as in Gray's Structural and Systematic Botany. *Canadian Botany*, including a practical acquaintance with all the orders of Phanerogams, Pteridophytes and Bryophytes. *Chemistry*, as in Roscoe's Lessons in Elementary Chemistry.
Logic, as in Jevons' Elementary Lessons on Logic.

Two will be given on an Examination in Classics and Modern Languages, as follows:—

Classics.—Greek.—Plato, Apology and Crito; Demosthenes, the Olynthiacs Xenophon, Memorabilia, Book I; Herodotus, Book VII.; Thucydides, Book VI. *Latin.*—Horace, Epistles, Book I.; Livy, Bks. XXI., XXII., Virgil, Georgics, Book I.; Terence, Adelphi; Cicero, Select Letters (Pritchard and Bernard; Clarendon Press Series). Greek and Latin Prose Composition.

History.—Text-Books.—Rawlinson's Manual of Ancient History; Smith's Student's Greece; Mommsen's Rome (abridged).

English Language and Literature.—Spalding's English Literature (Chap. VI. Part III., to end of book); Shakspere, Tempest; Milton's Paradise Lost, Books I. and II.; Trench, Study of Words.

English Composition.—High marks will be given for this subject.

French.—Racine, Britannicus; Molière, les Femmes Savantes. French Grammar. Bonnefon, les Ecrivains célèbres de la France. Translation from English into French.

Or instead of French:—

German.—Schiller, Der Neffe als Onkel. Egmont Leben and Tod (Buchheim). Die Kraniche des Ibycus. German Grammar. Trans. from Eng. into German.

Classical Subjects for Exhibitions, September, 1893.

FIRST YEAR.—*Greek.*—Homer, Iliad, Bk. I. or IV.; Xenophon, Anabasis, Bk. I. or IV.; Demosthenes, Philippics, I. and II.

Latin.—Virgil, Aen., Bk I.; Cicero, In Catilinam, I. and II.; Caesar, Bell. Gall., I. and II. or III. and IV.

SECOND YEAR.—*Greek.*—Homer, Odyssey, Bk. VII. or Bk. IX.; Demosthenes, Olynthiacs, I. and III.; Plato, Laches and Euthyphro.

Latin.—Virgil, Georgics, Bk. I., or Aeneid, Bk. III.; Horace, Odes, Bk. I.; Livy, Bk. XXII., or Cicero, Pro Lege Manilia and Pro Archia.

EXEMPTIONS FROM FEES UNDER PRESENTATION SCHOLARSHIP, ETC.

Four exemptions from fees may be granted by the Board of Governors, from time to time to the most successful Students who may present themselves as Candidates. By order of the Board, one of these is given annually to the Dux of the High School of Montreal, and one to the Dux of any other Academy or High School, sending up in one year entrance three or more Candidates competent to pass creditably the Matriculation Examination.

In the event of any Academy or High School in the Province of Quebec offering for competition among its pupils an Annual Bursary in the Faculty of Arts of not less than $80, the Governors will add the amount of the fees of tuition thereto.

Exemptions from fees, not exceeding three in number, may be given to holders of the Academy Diploma of the McGill Normal School, who, on fulfilling the required conditions, enter in the Second Year, if at the Diploma Examination they have taken 75 per cent. of the total marks, with not less than two-thirds of the marks in Latin and in Greek. (For exemptions from fees to Normal School Students, see regulations of Normal School.)

By a resolution of the Board of Govenors, exemptions are granted to students of any affiliated Theological College, recommended by its Principal, and entering the Faculty of Arts as Matriculated Students. The number of such exemptions will be determined from time to time by the Board of Governors.

One exemption is given annually to the pupil (boy or girl) of the Montreal High School holding a Commissioner's exemption from the Schools of the Protestant Commissioners, Montreal, who has taken the highest marks at the A. A. Examination, and is recommended by the Commissioners.

§ III. COURSE OF STUDY.

An Undergraduate, in order to attain the Degree of B.A, is required, after passing the First Year Matriculation Examination (see § I), to attend the appointed courses of lectures regularly for four years, and to pass two Examinations in each year, viz., at Christmas and in April. If he fail at any one of these examinations he is not allowed to proceed with his course until he has passed it subsequently. (See § IV.) Undergraduates are arranged, according to their standing, as of the First, Second, Third or Fourth Year.

The special arrangements made for Honour Students and for those attending lectures in other Faculties also are stated in § V.

ORDINARY COURSE FOR THE DEGREE OF B.A.

FIRST YEAR.

GREEK.—HOMER—Iliad, Book XXII. Xenophon.—Hellenics, Book I. Studies in History and Literature.

LATIN.—CICERO.—De Amicitia. VIRGIL.—Aeneid, Bks. XI and XII.—Translation at sight.—Studies in History and Literature.—Latin Prose Composition.

MATHEMATICS.—Arithmetic. Euclid, six books. Algebra, to end of Quadratic equations. Plane Trigonometry, in part.

ENGLISH LANGUAGE AND LITERATURE.

First term.—MILTON'S Comus and BACON'S Essays (selected), two lectures a week. English Composition, one lecture a week.

Second Term.—English Literature, previous to Elizabethan Period.

CHEMISTRY.—Lectures, chiefly on Elementary and Inorganic Chemistry, with Experiments in the Class-Room, and Laboratory work if desired; the whole preparatory to the Course in Natural Science.

FRENCH.—DAREY, Principes de Grammaire Française.—LA FONTAINE, Choix de Fables.—MOLIÈRE, L'Avare.—Dictation. Colloquial exercises.

Or, instead of French, either of the following:—

GERMAN.—VANDERSMISSEN'S AND FRASER'S German Grammar. Adler's Progressive German Reader (selections from Sections 1 and 2). Translations, oral and written. Dictation. Colloquial exercises.

HEBREW.—(For Theological Students only). *Elementary Course.*—Reading and Grammar, with oral and written exercises in Orthography and Etymology. Translation and Grammatical Analysis of Genesis. —*Text-Books:*—HARPER'S Elements of Hebrew; and Introductory Hebrew Method and Manual.

SECOND YEAR.

GREEK.—PLATO.—Apology. Xenophon.—Memorabilia, Bk. I., Chaps. I. and II. History of Greece.

LATIN.—HORACE.—Epistles, Bk. I., 1, 2 and 6; Livy, Bk. XXII. Translation at sight, and Latin Prose Composition.

MATHEMATICS.—Arithmetic, Euclid. Algebra and Trigonometry as before.—Logarithms.—Plane Trigonometry, including solution of triangles and applications.

MATHEMATICAL PHYSICS.—Mechanics, one lecture a week.

ENGLISH LITERATURE.—A period of English Literature and one play of Shakspere. During the session of 1892-93—The leading poets of the nineteenth century. SHAKSPERE, A Midsummer Night's Dream. [Clarendon Press Edition.]

PSYCHOLOGY AND LOGIC.—First Term.—Elementary Psychology (*Text-Book*:—MURRAY'S Handbook of Psychology, Bk. I). Second Term.—Logic (*Text-Book*:—JEVONS' Elementary Lessons in Logic).

BOTANY.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology. *Text-Books*:—Gray's Structural Botany. Penhallow's Classification. Penhallow's Guide to the Collection of Plants. Gray's Manual.

FRENCH.—RACINE, Esther.—Ponsard, l'Honneur et l'Argent.—CONTANSEAU, Précis de Littérature Française depuis son origine jusqu'à la fin du XVIIIe siècle. Translation into French:—DR. JOHNSON, Rasselas. Dictation. Parsing. Colloquial exercises.

Or, instead of French, either of the following:

GERMAN.—VANDERSMISSEN'S AND FRASER'S German Grammar. ADLER'S Progressive German Reader (selections from Sections 3-5) Immermann, Der Oberhof. Dictation. Colloquial exercises. Translations, oral and written. Parsing.

HEBREW.—(For Theological Students only.)—*Intermediate Course.*—Grammar.—Dr. Harper's "Elements and Methods."—Translation from the Old Testament.—Exercises:—Hebrew into English, and English into Hebrew.—Syntax.—Reading of the Masoretic notes.

For the Intermediate Examination, see § IV.

THIRD YEAR.

GREEK.—LYSIAS.—Contra Eratosthenem.
EURIPIDES.—Medea.

Or, instead of Greek :—

LATIN.—JUVENAL.—Satires VIII and XIII.
Pliny.—Select Letters.
Latin Prose Composition, or Cicero, De Natura Deorum.

NATURAL PHILOSOPHY.—MATHEMATICAL PHYSICS.—GALBRAITH AND HAUGHTON'S Mechanics, viz., *Statics*, First three chapters, omitting sec. 5, chapter I., and sec. 21, chapter II ; *Dynamics*, subjects of the First five chapters. GALBRAITH AND HAUGHTON'S Hydrostatics.

In addition to the above, the Student must take three subjects out of the two following divisions, headed Literature and Science respectively, the selection being at the option of the Student, provided two be taken from one division and one from the other.

I. Literature, &c.

LATIN OR GREEK —As above, according as Greek or Latin has been chosen previously.

ENGLISH AND RHETORIC.—(A) CHAUCER'S Prologue to Canterbury Tales, ed. Morris. (B) BAIN'S Rhetoric.

MENTAL PHILOSOPHY.—First Term :—The Logic of Induction, as in MILL'S System of Logic, Bock III. Second Term :—The Psychology of Cognition, as in MURRAY'S Handbook of Psychology, Book II , Part I.

FRENCH.—(If taken in the first two years).—RACINE, Iphigénie.—Cogery—Third French course. Translation into French.—Johnson, Rasselas. French Composition. Dictation.—CONTANSEAU, Précis de Littérature Française, depuis le XVIIIe siècle jusqu'à nos jours.

GERMAN.—(If taken in the first two years).—VANDERSMISSEN'S AND FRASER'S German Grammar. SCHILLER, Siege of Antwerp. LESSING, Minna von Barnhelm. History of German Literature in the 18th and 19th centuries. German composition. Dictation.

HEBREW.—(For Thelogical Students).—*Advanced Course.*—Gesenius' Grammar —Harper's Elements of Syntax. Exercises continued.—Translation.—Reading of the Masoretic notes.

II. Science.

†OPTICS AND DESCRIPTIVE ASTRONOMY.—Optics (Galbraith and Haughton). Descriptive Astronomy (Lockyer's Elementary Astronomy), English edition ; first three chapters. Students are recommended to use with this an "Easy Guide to the Constellations," by Gall

†EXPERIMENTAL PHYSICS.—Electricity, Magnetism, and Sound ; or, Light and Heat ; as in Ganot's Treatise.

ZOOLOGY AND PALÆONTOLOGY.—Elements of Animal Physiology, Classification of Animals. Characters of the Classes and Orders of Animals, with Recent and Fossil Examples, taken as far as possible from Canadian Species. Demonstrations in the Museum. *Text-Book.*—Dawson's Hand-book of Zoology.

FOURTH YEAR.

GREEK.—ÆSCHINES.—Contra Ctesiphontem.

Or, instead of Greek :—

LATIN.—TACITUS.—Annals, Book I.
Latin Prose Composition.

NATURAL PHILOSOPHY.—*Mathematical Physics.* Mechanics and Hydrostatics (as in Third Year), or Astronomy (GALBRAITH AND HAUGHTON) and Optics (GALBRAITH AND HAUGHTON).

MORAL PHILOSOPHY.—First Term :—The Psychological Basis of Ethics. Second Term :—Ethics Proper, comprising the elementary principles of Jurisprudence and Political Science. *Text-Book :*—Murray's Introduction to Ethics. The Students are required to write occasional essays on Philosophical subjects.

In addition to the preceding, the Student must take three subjects out of the two following divisions (headed Literature and Science respectively), the selection being at the option of the Student, provided all three are not taken out of the same division.

I. Literature, etc.

LATIN OR GREEK.—As above, according as Greek or Latin has been taken above.

HISTORY.—Lectures on the History of Europe from the downfall of the Roman Empire of the West to the Reformation. *Text-Books :*—MYERS, Mediæval and Modern History, pp. 1-398 ; BRYCE, Holy Roman Empire (omit chaps. 6, 8, 9, 13, and Supplementary chapter).

FRENCH—(If taken in Third Year.)— Bonnefon, Les Ecrivains modernes de la France. Translation into French. Morley's Ideal Commonwealths. Dictation. RACINE, Iphigénie.

GERMAN.—(If taken in Third Year.)—German Grammar and Composition. Dictation. Goethe, Aus meinen Leben ; SCHILLER, Wallenstein. History of German Literature prior to the 18th century.

HEBREW.—(For Theological Students.)—Advanced Course continued.

II. Science.

†ASTRONOMY AND OPTICS.—If not chosen as above.

†EXPERIMENTAL PHYSICS.—Light and Heat; or Electricity, Magnetism and Sound, as in GANOT's Treatise.

MINERALOGY AND GEOLOGY.—1. *Mineralogy and Petrography.* Minerals and rocks, especially those important in Geology or useful in the Arts. 2. *Stratigraphy, Chronological Geology and Palæontology.*—Data for determining the relative ages of Formations. Classification according to age. Fauna and Flora of the successive periods. Geology of British America. *Text-Book.*—Dawson's Handbook of Canadian Geology.

For the B.A. Examinations see § IV.

NOTE ON THE ORDINARY COURSE FOR B.A.

Instead of two distinct subjects in one of the above divisions in either Third or Fourth Year, the Student may select one subject only together with an *Additional Course* in the same or any other of his subjects in which such Additional Course may have been provided by the Faculty, under the above rules, provided he has been placed in the first class in the corresponding subject at the preceding Sessional Examination (viz., Intermediate or Third Year, according to standing).

The Additional Course is intended to be more than equivalent, in the amount of work involved for any of the other subjects in the division.

(For details of additional courses provided, see under Section XII.)

Undergraduates are required to study either French or German for two years (viz., in the First and Second Years), taking the same language in each year. Any Student failing to pass the Examination at the end of the Second Year will be required to pass a Supplemental Examination, or to take an additional Session in the Language in which he has failed. In addition to the obligatory, there are other lectures, attendance on which is optional.

Students who intend to join any Theological School, on giving written notice to this effect at the beginning of the First Year, may take Hebrew instead of French or German.

Undergraduates who have been previously Partial or Occasional Students, and have in that capacity attended a particular Course or Courses of Lectures, may, at the discretion of the Faculty, be exempted from further attendance on these Lectures; but no distinction shall in consequence be made between the Examination of such Undergraduates and of those regularly attending Lectures.

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† Students claiming exemptions (see § V.) cannot count these subjects for the B.A. if they have not taken the Third Year Mathematical Physics.

HONOUR COURSES.

1. Classical Languages and Literature.
2. Mathematics and Physics.
3. Mental and Moral Philosophy.
4. English Language, Literature and History.
5. Geology and other Natural Sciences.
6. Modern Languages with History.
7. Semitic Languages.

Honours are given in the above subjects in the Third Year also, and in Mathematics in the First and Second Years.

Candidates for Honours are allowed exemptions under conditions stated in § V.

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§ IV. EXAMINATIONS.

COLLEGE EXAMINATIONS.

For Students of McGill College only.

1. There are two examinations in each year :—one at Christmas and the other at the end of the Session. In each of these the Students who pass are arranged according to their answering as 1st Class, 2nd Class, and 3rd Class.

In the Fourth Year only, the University Examination for B.A. takes the place of the Sessional Examinations.

2. Students who fail in any subject at the Christmas Examinations are required to pass a Supplemental Examination (if permission be obtained from the Faculty) on that subject, before admission to the Sessional Examinations.

3. Undergraduates who fail in one subject at the Sessional Examinations of the first two years are required to pass a Supplemental Examination in it. Should they fail in this, they will be required in the following Session to attend the Lectures and pass the Examination in the subject in which they have failed, in addition to those of the Ordinary Course, or to pass the Examination alone without attending lectures, at the discretion of the Faculty.

4. Failure in two or more subjects at the Sessional Examinations of the first two years, or in one subject at the third year Sessional Examinations, involves the loss of the Session. The Faculty may permit the Student to recover his standing by passing a Supplemental Examination at the beginning of the ensuing Session. For the purpose of this Regulation, Classics and Mathematics are each regarded as two subjects.

5. A list of those to whom the Faculty may grant Supplemental Examinations will be published after the examinations. The time for the Supplemental Examination will be fixed by the Faculty; the examination will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $5.

UNIVERSITY EXAMINATIONS.

For Students of McGill College and of Colleges affiliated in Arts.

I. FOR THE DEGREE OF B.A.

There are three University Examinations :—The *Matriculation*, at entrance; the *Intermediate*, at the end of the Second Year; and the *Final*, at the end of the Fourth Year.

1. The subjects of the Matriculation Examination are stated in Section I.

2. In the Intermediate Examination, the subjects are Classics and Pure Mathematics, Logic, and the English Language, with one other Modern Language, or Botany. Theological Students are allowed to take Hebrew instead of a Modern Language. The subjects for the examination of 1893 are as follows :—

Classics.—Greek.—Plato, Apology; Xenophon, Memorabilia, Book I., Chaps. I. and II. Latin.—Horace, Epistles, Bk. I., 1, 2 and 6.—Livy, Bk. XXII.

Latin Prose Composition, and translation at sight of Latin into English.

Mathematics.—Arithmetic.

Euclid, Books I., II., III., IV., VI., and defs. of Book V.
Algebra, to Quadratic Equations, inclusive.
Trigonometry, including use of Logarithms.

Logic.—Jevons' Elementary Lessons in Logic.

English.—Spalding's History of English Literature, or Lectures (see course). A paper on the essentials of English History (Buckley). Essay on a subject to be given at the time of the Examination.

With one of the following :—

1. *Botany and Vegetable Physiology.*—Structural and Systematic Botany, as in Gray's Text-Book, omitting the Descriptions of the Orders.

2. *French.*—Ponsard :—l'Honneur et l'Argent. Racine :—Esther. Contanseau :—Précis de la Littérature Française, from the beginning to the end of XVIIIth century. Translation into French :—Rasselas. Grammatical questions.

3. *German.*—Vandersmissen's German Grammar; Adler's & Fraser's Progressive Reader (selections from secs. 3 to 5); Immermann, Der Oberhof. Dictation. Colloquial exercises. Translations, oral and written.

4. *Hebrew.*—Genesis—chap. III., IV., XXXVII. Exodus—chap. XV. Deuteronomy,—chap. V. Exercises: Hebrew into English, and English into Hebrew. Syntax. Reading of the Masoretic notes and of the Septuagint version.

3. For the Final or B.A. Ordinary Examination the subjects are those appointed as obligatory in the Third and Fourth Years, viz., Latin or Greek; Mathematical Physics (Mechanics and Hydrostatics), or Astronomy and Optics; Moral Philosophy; and those three subjects which the Candidate may have selected for himself in the Third and Fourth Years. (See § III.)

The subjects in detail for 1893 are as follows :—

1. *Greek.*—Æschines, Contra Ctesiphontem; Æschylus, Prometheus Vinctus. *Greek History.*—From the close of the Peloponnesian war to the death of Philip. (Or Latin, as follows) :—

2. *Latin.*—Tacitus, Annals, Book I.; Juvenal, Satt. VIII. and XIII. *Roman History.*—The twelve Cæsars.

Mathematical Physics.

1. Mechanics and Hydrostatics, as in Galbraith & Haughton's text-books; or
*Optics and Astronomy, " " "

Mental and Moral Philosophy.

Murray's Introduction to Ethics.

*Additional Courses as in § XII.

Natural Sciences.

Mineralogy and Geology, as in Dana's Manual and Dawson's Handbook of Canadian Geology.

*Practical Geology and Palæontology; or Practical Chemistry, as in § XII.

Experimental Physics.

Electricity, Magnetism and Sound. (See Courses of Lectures, § XII.)

History.

Myers:—Mediæval and Modern History; Bryce's Holy Roman Empire (omit Chaps. 6, 8, 9, 13, and Supplementary Chapter).

*Additional Course as in § XII.

French.

The Course of French for the Fourth Year.

*The subjects of the Additional Course as in § XII.

German.

The Course of German for the Fourth Year.

*Additional Course as in § XII.

Hebrew (Theological Students).

Deuteronomy, chap. XXXII; Habakkuk; Psalms, XXI, XXII and XXIII; Job, chaps. XIV, XIX, XXIX.

Gesenius' Grammar; Harper's Elements of Syntax; Reading of the Masoretic notes and of the Septuagint Version.

*Additional Courses (see § XII.).

For details of each subject, see Courses of Lectures, § XII.

At the B.A. Ordinary Examination of the Candidates who obtain the required aggregate of marks, only those who pass in the First Class in three of the departments, and not less than Second Class in the remainder, shall be entitled to be placed in the First Class for the Ordinary Degree.

4. Every Canadidate for the Degree of B.A. is required to make and sign the following declaration:—

"Ego———polliceor sancteque recipio me, pro meis viribus studiosum fore communis hujus Universitatis boni, et operam datur um ut ejus decus et dignitatem promoveam."

II. FOR THE DEGREE OF M.A.

1. A Candidate must be a Bachelor of Arts of at least thre years standing.

Thesis.

2. He is required to prepare and submit to the Faculty a thesis on some literary or scientific subject, under the following rules :—

(*a*) The subject of the thesis must be submited to the Faculty before the thesis is presented.

(*b*) A paper read previously to any association or published in any way cannot be accepted as a thesis.

(*c*) The thesis submitted becomes the property of the University, and cannot be published without the consent of the Faculty of Arts.

(*d*) The thesis must be submitted before some date to be fixed annually by the Faculty, not less than two months before proceeding to the Degree.

The last day in the session of 1892-93 *for sending in Theses for M.A. will be Jan.* 31*st*, 1893.

Examination.

3. All Candidates, except those who have taken First Rank B.A. Honours (or Second Rank B.A. Honours in or after 1889), or have passed First Class in the Ordinary Examinations for the Degree of B.A., are required to pass an examination also, either in Literature or in Science, as each Candidate may select.

(*a*) The subjects of the Examination in *Literature* are divided into two groups, as follows :

Group A.—1. Latin. 2. Greek. 3. Hebrew.

Group B.—1. French. 2. German. 3. English.

(*b*) The subjects for the Examintion in *Science* are divided into three groups :—

Group A.—1. Pure Mathematics (Advanced or Ordinary). 2. Mechanics (including Hydrostatics). 3. Astronomy. 4. Optics.

Group B.—1. Geology and Mineralogy. 2. Botany. 3. Zoology. 4. Chemistry.

Group C.—1. Mental Philosophy. 2. Moral Philosophy. 3. Logic. 4. History of Philosophy.

(*c*) Every Candidate in Literature is required to select two subjects out of one group in the literary section, and one out of the

other group in the same section for the Examination. Every Candidate in Science is required to select two out of the three groups in the Scientific section; and in one of the groups so chosen to select two subjects, and in the other group one subject for Examination.

(*d*) One of the subjects selected as above will be considered the principal subject (being so denoted by the Candidate at the time of application), and the other two as subordinate subjects.

(*e*) The whole examination may be taken in one year, or distributed over two or three years, provided the examination in any one subject is not divided.

For further details of the Examination, application must be made to the Faculty before the above date. For fees see § XI. (In case of failure the Candidate may present himself in a subsequent year without further payment of fees.)

Lectures to Bachelors of Arts.

Lectures are open to Bachelors of Arts who are candidates for M.A., the sessional examinations corresponding to these lectures being reckoned as parts of the M.A. examination. The subjects are Greek, Latin, English, Mental and Moral Philosophy, Chemistry, Botany, Geology and Mineralogy, French, German.

III. FOR THE DEGREE OF LL.D.

This Degree is intended as an incentive to and recognition of special study by Masters of Arts in some branch of Literature or Science. The thesis or short printed treatise referred to below is regarded as the chief test of the candidate's mastery of the subject he has chosen and of his power of handling it. A very wide range of choice is allowed in order to suit individual tastes.

The following are the regulations:—

I. Candidates must be Masters of Arts of at least twelve years standing. Every Candidate for the Degree of LL.D. in course is required to prepare and submit to the Faculty of Arts, not less than three months before proceeding to the degree, twenty-five printed copies of a Thesis on some Literary or Scientific *subject previously approved* by the Faculty, and possessing such a degree of Literary or Scientific merit, and evidencing such originality of

thought or extent of research as shall, in the opinion of the Faculty, justify it in recommending him for that degree.

N.B.—The subject should be submitted before the Thesis is written.

II. Every Candidate for the Degree of LL.D. in Course is required to submit to the Faculty of Arts, with his Thesis, a list of books, treating of some one branch of Literature or of Science satisfactory to the Faculty, in which he is prepared to submit to examination, and on which he shall be examined, unless otherwise ordered by vote of the Faculty. For fees see § XI.

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§ V. SPECIAL PROVISIONS FOR CANDIDATES FOR HONOURS AND FOR PROFESSIONAL STUDENTS.

The Honour lectures are open to Undergraduates only, and no Undergraduate is permitted to attend unless (*a*) he has been placed in the First Class in the subject at the preceding Sessional Examination, if there be one, and has (*b*) satisfied the Professor that he is otherwise qualified. (*c*) While attending lectures his progress must be satisfactory to the Professor. If not satisfactory, he may be notified by the Faculty to discontinue attendance.

I. Candidates for Honours in the Second Year.

Candidates for Honours in the Second Year who have obtained Honours in the First Year may omit the lectures and examinations either in Modern Languages (or Hebrew) or Botany, giving notice of the subject at the beginning of the session.

II. Candidates for Honours in the Third Year.

Every Candidate for Honours in the Third Year must, in order to obtain exemptions, have passed the Intermediate Examination, and must in the Examinations of the Second Year have taken First Rank Honours, if Honours be offered in the subjects, or if not, First Class at the Ordinary Sessional Examinations in the subject in which he proposes to compete for Honours, and be higher than Third Class in the majority of the remaining subjects; such Candidates shall be entitled in the Third Year to exemption from lectures and examinations in any one of the subjects required by the general rule (see § III), except that in which he is a Candidate for Honours. A Candidate for Honours in the Third Year who has failed to obtain Honours shall be required to take the same examinations for B.A. as the ordinary Undergraduates.

III. Candidates for B.A. Honours.

A Student who has taken Honours of the first rank in the Third Year, and desires to be a Candidate for B.A. Honours, shall be required to attend two only of the courses of lectures given in the ordinary departments, and to pass the two corresponding examinations only at the ordinary B.A. Examination. Candidates, however, who at the B.A. Examinations obtain Third Rank Honours, will not be allowed credit for these exemptions at the end of the Session, unless the Examiners certify that the knowledge shown of the whole Honour Course (Part II. as well as Part I.) is sufficient to justify it. A student who has taken Second Rank Honours in the Third Year, and desires to be a Candidate for B.A. Honours in the same subject, shall be allowed to continue in the Fourth Year the study of the same departments that he has taken in the Third Year, but shall be required to take the same number of subjects as in the Ordinary Course.

NOTE —For subjects of Ordinary Course see § III.

IV. Professional Students.

Students of the Third and Fourth Years, matriculated in the Faculties of Law, Medicine, or Applied Science, of the University, or in any affiliated Theological College, are entitled to exemption from any one of the Ordinary subjects required in the Third and Fourth Years. (For rule concerning "Special Certificates," see § IV.)

To be allowed these privileges in either year, they must give notice at the commencement of the Session to the Dean of the Faculty of Arts of their intention to claim exemptions as Professional Students, and must produce at the end of the Session certificates of attendance on a full course of Professional Lectures during the year for which the exemption is claimed.

V. Students of the University attending Affiliated Theological Colleges.

1. Such Students, whether entered as Matriculated or Occasional, are subject to the regulations of the Faculty of Arts in the same manner as other Students.

2. The Faculty will make formal reports to the Governing body of the Theological College which any such Students may attend, as to :—(1) their conduct and attendance on the classes of the Faculty; and (2) their standing in the several examinations; such reports to be furnished after the Christmas and Sessional Examinations severally, if called for.

3. Undergraduates are allowed no exemptions in the course for the degree of B.A. until they have passed the Intermediate Examination; but they may take Hebrew in the First or Second Years, instead of French or German.

4. In the Third and Fourth Years they are allowed exemptions, as stated above.

* Any Student who, under any of the above rules, desires to take Experimental Physics is required to take Mechanics and Hydrostatics also, in the Third Year.

§ VI. MEDALS, HONOURS, PRIZES, AND CLASSING.

1. Gold Medals will be awarded in the B.A. Honour Examinations to Students who take the highest Honours of the First Rank in the subjects stated below, and who shall have passed creditably the Ordinary Examinations for the Degree of B.A., provided they have been recommended therefor to the Corporation by the Faculty on the report of the Examiners :—

The *Henry Chapman Gold Medal*, for Classical Languages and Literature.

The *Prince of Wales Gold Medal*, for Mental and Moral Philosophy.

The *Anne Molson Gold Medal*, for Mathematics and Natural Philosophy.

The *Shakespere Gold Medal*, for the English Language, Literature and History.

The *Logan Gold Medal*, for Geology and other Natural Sciences.

Major Hiram Mills Gold Medal, for a subject to be chosen by the Faculty from year to year.

If there be no Candidate for any Medal, or if none of the Candidates fulfill the required conditions, the Medal will be withheld, and the proceeds of its endowment for the year may be devoted to prizes in the subject for which the Medal was intended. For details, see announcements of the several subjects below.

2. HONOURS of First, Second or Third Rank will be awarded to those Undergraduates who have successfully passed the Examinations in any Honour Course established by the Faculty, and have also passed creditably the ordinary Examinations in all the subjects proper to their year.

The Honour Examinations are each divided into two parts, separated by an interval of a few days, under the following regulations :—

(*a*) No Candidate will be admitted to Part II., unless he has shown a thorough and accurate knowledge of the course appointed for Part I.

(*b*) The names of the successful Candidates in Part I. will be announced before Part II. begins.

(*c*) First or Second Rank Honours will be awarded to those Candidates only who are successful in Part II.

(*d*) Third Rank Honours will be awarded to those who are successful in Part I alone.

By an Order of the Lieutenant-Governor of Ontario in Council, Honours in this University confer the same privileges in Ontario as Honours in the Universities of that Province, as regards certificates of eligibility for the duties of Public School Inspectors, and as regards exemption from the non-professional Examination of Teachers for first-class Certificates for Grades "A and B."

3. SPECIAL CERTIFICATES will be given to those Candidates for B.A. who shall have been placed in the First Class at the ordinary B.A. Examination. The Candidates must have obtained three-fourths of the maximum marks in the aggregate of the studies proper to their year, be in the First Class in not less than half the subjects, and have no Third Class. At this examination, no Candidate who has taken exemptions (see § V.) can be placed in the First Class unless he has obtained First Class in each of the departments in which he has been examined.

4. CERTIFICATES of High General standing will be granted to those Undergraduates of the first two years who have obtained three-fourths of the maximum marks in the aggregate of the Studies proper to their year, are in the First Class in not less than half the subjects, and have not more than one Third Class. In the Third Year the conditions are the same as for the Special Certificate for B.A.

5. PRIZES OR CERTIFICATES to those Undergraduates who may have distinguished themselves in the studies of a particular class and have attended all the other classes proper to their year.

6. His Excellency Lord Stanley has been pleased to offer a GOLD MEDAL for the study of Modern Languages and Literature, with History, or for First Rank General Standing, as may be announced.

(*a*) The Regulations for the former are as follows :—

(1) The subjects for competition shall be French and German, together with the History part of the present Honour Course for the Shakspeare Medal.

(2) The Course of study shall extend over two years, viz., the Third and Fourth Years.

(3) The successful Candidate must be capable of speaking and writing both languages correctly.

(4) There shall be examinations in the subjects of the course in both the Third and Fourth Years, at which Honours may be awarded to deserving Candidates.

(5) The general conditions of competition, and the privileges as regards exemptions, shall be the same as for the other Gold Medals in the Faculty of Arts.

(6) Students from other Faculties shall be allowed to compete, provided they pass the examinations of the Third and Fourth Years in the above subjects.

(7) Candidates desiring to enter on the Third Year of the Course, who have not obtained first-class standing at the Intermediate or Sessional Examinations of the Second Year in Arts, are required to pass an examination in the work of the first two years of the Course in Modern Languages, if called on to do so by the Professors.

(8) The subjects of Examination shall be those of the Honour Course in Modern Languages.

(*b*) The Regulations for the Gold Medal, if awarded for First Rank General Standing, are as follows :—

(1) The successful Candidate must take no exemptions or substitutions of any kind, whether Professional or Honour, in the Ordinary B.A. Examinations.

(2) He shall be examined in the following subjects :—

(*a*) *Classics* (both languages) ; (*b*) *Mixed Mathematics :—Mechanics, Hydrostatics, Optics, Astronomy ;* (*c*) *Moral Philosophy ;* and any *two* of the following subjects, or any *one* of them with its Additional Course ; (*d*) Natural Science ; (*e*) Experimental Physics ; (*f*) English and History ; (*g*) French ; (*h*) German.

(3) His answering must satisfy special conditions laid down by the Faculty.

(4) The same Candidate cannot obtain the Gold Medal for First Rank General Standing and also a Gold Medal for First Rank Honours.

7. The Neil Stewart Prize of $18 is open to all Undergraduates of this, and also to Graduates of this or any other University, studying Theology in any College affiliated to this University, under the following rules :—

(1) The prize will not be given for less than a thorough examination on Hebrew Grammar passed in the First Class, in reading and translating the Pentateuch, and such poetic portions of the Scriptures as may be determined.

(2) In case competitors should fail to attain the above standard, the prize will be withheld, and a prize of $36 will be offered in the following year for the same.

[Course for the present year :—Hebrew Grammar (Gesenius) ; Translation and analysis of Exodus ; Job ; Malachi.]

(3) There will be two Examinations of three hours each—one in Grammar and the other in Translation and Analysis.

The Prize founded by the late Rev. C. C. Stewart, M.A., and terminated by his death, was re-established by the liberality of the

late Neil Stewart, Esq., of Vankleek Hill, and will be offered for competition next session.

8. EARLY ENGLISH TEXT SOCIETY'S PRIZE.—The prize, the annual gift of the Early English Text Society, will be awarded for proficiency in (1) Anglo-Saxon, (2) Early English before Chaucer.

The subjects of Examination will be :—

(1) The Lectures of the Third and Fourth Years on Anglo-Saxon.

(2) Specimens of Early English, Clarendon Press Series, ed. Morris and Skeat, Part II., A.D. 1298—A.D. 1393. The Lay of Havelock the Dane (Early English Text Society, ed. Skeat.).

9. NEW SHAKSPERE SOCIETY'S PRIZE.—This Prize, the annual gift of the New Shakspere Society, open to Graduates and Undergraduates, will be awarded for a critical knowledge of the following plays of Shakspere :—

Hamlet; Macbeth; Othello; King Lear.

10. "CHARLES G. COSTER MEMORIAL PRIZE."—This Prize, intended as a tribute to the memory of the late Rev. Chas. G. Coster, M.A., Ph.D., Principal of the Grammar School, St. John, N.B., is offered by Colin H. Livingstone, Esq., B.A., to the Undergraduates (men or women) from the Maritime Provinces, Nova Scotia, New Brunswick and Prince Edward Island. In April, 1893, it will be awarded to that Undergraduate of the First, Second or Third Year, from the above Provinces, who, in the opinion of the Faculty, has passed the most satisfactory Sessional Examinations.

11. SCIENCE SCHOLARSHIPS GRANTED BY HER MAJESTY'S COMMISSION FOR THE EXHIBITION OF 1851.—These scholarships of £150 sterling a year in value are tenable for two or, in rare instances, three years. They are limited, according to the Report of the Commission, "to those branches of Science (such as Physics, Mechanics and Chemistry) the extension of which is specially important for our national industries." Their object is, not to facilitate ordinary collegiate studies, but "to enable students to continue the prosecution of science with the view of aiding in its advance or in its application to the industries of the country."

A nomination to one of these scholarships for the year 1892 has been placed by the Commission at the disposal of McGill University, and another may be granted for the year 1894.

It is open to Students of not less than three years standing in the Faculties of Arts or Applied Science, and is tenable at any University or at any other Institution approved by the Commission.

12. The names of those who have taken Honours, Certificates or Prizes will be published in order of merit; with mention, in the case of Students of the First and Second Years, of the schools in which their preliminary education has been received.

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§ VII. LICENSED BOARDING HOUSES.

1. All Students under 21 years of age, not residing with parents or guardians, nor belonging to a Theological College, shall reside in licensed boarding-houses, unless they produce written authority from parents or guardians to reside elsewhere.

2. Persons applying for a license to keep boarding-houses shall produce evidence satisfactory to the Principal as to their character and fitness, and the suitability of the house for the health and comfort of the Students. They shall also supply him with a statement of charges.

3. The keeper of the boarding-house shall report immediately to the Principal the entrance or departure of any Student, and any instance of immorality or disorderly conduct.

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§ VIII. ATTENDANCE AND CONDUCT.

All Students shall be subject to the following regulations for attendance and conduct:—

1. A Class book shall be kept by each Professor or Lecturer, in which the presence or absence of Students shall be carefully noted; and the said Class-book shall be submitted to the Faculty at all their ordinary meetings during the Session.

2. Each Professor shall call the roll immediately at the beginning of the lecture. Credit for attendance on any lecture may be refused on the grounds of lateness, inattention or neglect of study, or disorderly conduct in the class-room. In the case last mentioned the Student may, at the discretion of the Professor, be required to leave the class-room. Persistence in any of the above offences against discipline, after admonition by the Professor, shall be reported to the Dean of Faculty. The Dean may, at his discretion, reprimand the Student, or

refer the matter to the Faculty at its next meeting, and may in the interval suspend from Classes.

3. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the Faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

4. While in the College, or going to or from it, Students are expected to conduct themselves in the same orderly manner as in the Class rooms. Any Professor observing improper conduct in the College buildings or grounds may admonish the Student, and, if necessary, report him to the Dean.

5. Every Student is required to attend regularly the religious services of the denomination to which he belongs, and to maintain, without as well as within the walls of the College, a good moral character.

6. When Students are brought before the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, impose fines, disqualify from competing for prizes or honours, suspend from Classes, or report to the Corporation for expulsion.

7. Any Student who does not report his residence on or before November 1st in each year is liable to a fine of one dollar.

8. Any Student injuring the furniture or buildings will be required to repair the same at his own expense, and will, in addition, be subject to such other penalty as the Faculty may see fit to inflict.

9. All cases of discipline involving the interests of more than one Faculty, or of the University in general, shall be immediately reported to the Principal, or, in his absence, to the Vice-Principal.

[NOTE.—All Students are required to appear in Academic dress while in or about the College building. Students are requested to take notice that petitions to the Faculty on any subject cannot, in general, be taken into consideration, except at the regular meetings appointed in the Calendar.]

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§ IX. LIBRARY.

Extract from the Regulations.

1. The books in the Library are classed in two divisions:—1st, Those which may be lent; and 2nd, those which may not, under any circumstances, be removed from the Library. The classification shall be determined by the Librarian.

2 Students in the Faculty of Arts or of Applied Science, who have paid the Library fee, may borrow books on depositing the sum of $5 with the Bursar, which deposit, after the deduction of any fines due, will be repaid at the end of the Session on the certificate of the Librarian or his assistant that the books have been returned uninjured.

3. Students may borrow not more than three volumes at one time, except on the recommendation in writing of a Professor for specified books, and must return them within two weeks, on penalty of a fine of 5 cents a volume for each day of detention. An additional deposit of $4 entitles a Student to borrow two extra volumes.

4. A Student incurring fines beyond the sum total of $1 shall be debarred the use of the Library until they have been paid.

5. Any volume, or volumes, lost or damaged by any person shall be replaced or paid for at such rates as the Library Committee may direct; and such rate of payment shall be determined by the value of the book itself, or of the set to which the volume belongs. And further, any person found guilty of willfully damaging any book, either by defacement or mutilation, or in any other way, shall be excluded from the Library, and shall be debarred from the use thereof for such time as the Library Committee may determine.

6. Graduates in any of the Faculties, on making a deposit of $5, are entitled to the use of the Library, subject to the same rules and conditions as Students; but they are not required to pay the annual Library fee.

7. Graduates residing beyond the City limits, and applying for the loan of books from the Library, shall not receive such books without the sanction of the Honorary Librarian, and depositing the value of the books with the Bursar of the College.

8. Members of the McGill College Book Club, on presenting annually a certificate of their membership, are by special regulation of Corporation entitled to the use of Library on the same conditions as Graduates, but they are not required to make a deposit.

9. Students in the Faculties of Law and Medicine, who have paid the Library fee to the Bursar, may read in the Library, and, on depositing the sum of $5 with the Bursar, may borrow books on the same conditions as Students in Arts. They are required to present their Matriculation Tickets to the Bursar and to the Librarian or his assistant.

10. Persons not connected with the College may consult books in the Library on obtaining an order from any of the Governors, or from the Principal, or the Dean of the Faculty of Arts or of Applied Science, or from any of the Professors in the said Faculties. Donors of books or money to the amount of Fifty dollars may at any time consult books on application to the Librarian.

11. The Library is kept open from 9 a.m. to 4 p.m. daily, and no person shall be allowed in the Library except during these hours.

12. No person, other than the Librarian and the assistant, is allowed to enter the alcoves, or take down books from the shelves, except members of Corporation, and Professors, or those whom any of the above may accompany personally.

13. A person desiring to read or to borrow a book, which he has ascertained from the Catalogue to be in the Library, will fill up one of the blank forms provided for Readers and Borrowers respectively, and hand it to the Library Assistant who will thereupon procure him the book.

14. Readers must return the books they have obtained to the Library Assistant before leaving the Library.

15. No conversation is permitted in the Library.

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§ X. PETER REDPATH MUSEUM.

1. The Museum will be open every lawful day from 9 a.m. till 5 p.m., except when closed for any special reason by order of the Principal or Committee.

2. Students will obtain tickets of admission from the Principal on application.

3. Students will enter by the front door only, except when going to lectures.

4. Any Students wilfully defacing or injuring specimens, or removing the same, will be excluded from access to the Museum for the Session.

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§ XI. FEES.

All fees and fines are payable to the Bursar of the College.

I. *Undergraduates.*

(Undergraduates matriculated before April, 1891, are subject to the old scale of fees only.)

Matriculation (First Year)	$ 5 00
" Second and subsequent years	7 50
(Exigible also from those who have failed in the First Year and re enter in the Second Year on examination.)	
Tuition Fee (per session)	30 00
Special Fee, including Library, Museum, Gymnasium, Ordinary Examinations and Annual Registration	15 00

[Total per session $50.00 in First Year and $45.00 in subsequent years.]

II. *Partial Students.*

Partial Students taking classes in the First Year only are subject to the same fees as Undergraduates. Otherwise the fees are as follows:—

Matriculation Fee (first year of attendance)	$ 5 00
Tuition Fee (not exceeding 4 classes)	30 00
" each additional class in excess of four	10 00
Special Fee, including Library, Gymnasium, Museum, Ordinary Examination and Registration	$ 15 00

III. *Occasional Students.*

Tuition Fee, for each class	10 00
Special Fees (optional), Library, Gymnasium, Museum, each	5 00
Examination in any subject (each)	2 00

IV. *Miscellaneous.*

Laboratory and Practical Classes, viz., *Chemistry*, *Botany*, *Physics*, each per session (special)	10 00
Elocution (special)	2 00
Petrography (special)	5 00
Supplemental Examination, at date fixed by Faculty	2 00
Supplemental Examination, when granted at any other time than that fixed by the Faculty	5 00
Fee for a certificate of standing if granted to a Student on application	1 00
Fee for a certificate of standing if accompanied by a statement of classification in the several subjects of examination	2 00
Examination Fee for Students of Affiliated Theological Colleges, who present themselves for the entrance examination without intending to become Undergraduates	10 00
Matriculation Certificate, for Students intending to enter the Medical Faculty	2 50

N.B.—The lectures in one subject in any of the four college years constitute a "Course."

Graduates in Arts are allowed to attend, without payment of fees, all lectures, except those noted as requiring a special fee.

The fees must be paid the Secretary, and the tickets shown to the Dean, within a fortnight after the commencement of attendance in each session. In case of default, the Student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty, and on payment of a fine of $2.

[All fines are applied to the purchase of books for the Library.]

Fee for the degree of B.A	$10 00
" " " *M.A*	10 00*
" " " *LL.D*	50 00*

If the degree of M.A. be granted, with permission to the Candidate, on special grounds, to be absent from Convocation, the fee is $25.00.

The B.A. fee must be paid before the Examination.

The M.A. or LL.D. fee must be sent with the Thesis to the Secretary of the University. This is a condition essential to the reception of the application. The Secretary will then forward the Thesis to the Dean of the Faculty.

*A Bachelor of Arts or a Master of Arts intending to proceed to a higher Degree is required, *in addition* to the above, to keep his name on the books of

the University, by the annual payment of a fee of $2 to the Registrar of the University. He may, if he prefer it, compound for the above annual fees, by the payment of $6 in one sum for the Master's Degree, or $30 for the Doctor's Degree, on or before the date of application for the Degree.

Extract from the Regulations of the Board of Governors for Election of Fellows under Chap. V. of the Statutes of the University.

"From and after the graduation of 1888, all new Graduates shall "pay a Registration Fee of $2.50 at the time of their graduation, "in addition to the Gradution Fee ; and shall be entered in the "University list as privileged to vote, and shall have voting-"papers mailed to them by the Secretary."

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§ XII. COURSES OF LECTURES.

I. ORDINARY COURSE.

1. CLASSICAL LITERATURE AND HISTORY.

(Major H. Mills Professorship of Classics.)

Professor :—Rev. G. Cornish, M.A., LL.D.

Associate Professor :—A. J. Eaton, M.A., Ph.D.

Sessional Lecturer :—John L. Day, B.A.

GREEK.

First Year.—Homer.—Iliad, Book XXII. Xenophon.—Hellenics, Book I.

Second Year.—Plato.—Apology. Xenophon.—Memorabilia, Bk. I., Chaps. I-II. Smith's Student's Greece (to the Peloponnesian War).

Third Year.—Lysias.—Contra Eratosthenem. Euripides.—Medea.

Fourth Year.—Æschines.—Contra Ctesiphontem.

LATIN.

First Year.—Cicero.—De Amicitia. Virgil.—Aeneid, Bks. XI, XII. Latin Prose Composition with exercises based upon Nepos (Miltiades) and Caesar (Bk. II., Chaps. 14-28).—Bender's Roman Literature.—Mommsen's History of Rome (abridged), Chaps. I-XI.

Second Year.—Livy, Bk. XXII.—Horace, Epistles, Bk. I., 1, 2, and 6.—Translation at sight of passages from Cicero and Livy, and Latin Prose Composition based upon selections from the same authors.

Third Year.—Juvenal.—Satires VIII. and XIII. Pliny, Select Letters. Latin Prose Composition, or, Cicero, De Natura Deorum.

Fourth Year.—Tacitus.—Annals, Book I. Latin Prose Composition.

In the work of the Class the attention of the Student is directed to the collateral subjects of History, Antiquities and Geography; also to the grammatical structure and affinities of the Greek and Latin Languages, and to Prosody and Accentuation.

The Latin pronunciation adopted in the lectures is based on the scheme issued by the Cambridge Philological Society (London: Trubner & Co.).

In Greek, the system of pronunciation, outlined in the preface of Goodwin's Greek Grammar, is recommended to the attention of students.

Number of lectures in Fourth Year—two weekly, or, at the discretion of the Professor, three.

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2. ENGLISH LANGUAGE AND LITERATURE.

(Molson Professorship.)

Professor:—Chas. E. Moyse, B.A.

Lecturer:—P. T. Lafleur, M.A.

Sessional Lecturer:—W. J. Messenger, B.A.

First Year.—English Language and Literature. Three lectures a week. Until Christmas the work of the Class will partly consist of exercises in English Composition. Two lectures a week will be given to the study of English Classics. Milton's Comus and a portion of Bacon's Essays have been selected for the Session of 1892-93. After Christmas there will be a course of about thirty lectures on English Literature previous to the Elizabethan Period. Students are recommended to use Prof. Henry Morley's Charts of English Literature, and to read the first chapter of Henry Morley's English Writers (Cassell, 1887).*

Second Year.—A period of English Literature and one play of Shakespeare. One Lecture a week before Christmas; two lectures a week after Christmas. During the session of 1892-93, the leading poets of the Nineteenth Century will form the subject of the Lectures. Shakespeare—A Midsummer Night's Dream. (Clarendon Press Edition.)

Third Year:—A. Chaucer's Prologue to Canterbury Tales. Lecture once a week; *Text-Book:*—Chaucer's Prologue, etc., ed. Morris. *B.* Rhetoric. Lecture once a week; *Text-Book:*—Bain's Rhetoric.

Fourth Year.—History. The lectures (once a week) will be a sketch of general European History from the fall of the Roman Empire of the West to the Discovery of the New World. The use of Professor Nichol's Tables of European History is recommended.

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3. MENTAL AND MORAL PHILOSOPHY.

(John Frothingham Professorship of Mental and Moral Philosophy.)

Professor:—Rev. J. Clark Murray, LL.D.

Lecturer:—Paul T. Lafleur, M.A.

Second Year.—First term:—Elementary Psychology. (*Text-Book:*—Murray's Handbook of Psychology, Book I.) Second Term:—Logic. (*Text-Book:*—Jevons' Elementary lessons in Logic.)*

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* The prizes are awarded on the work of the whole Session.

Third Year.—First Term:—The Logic of Induction, as in Mill's System of Logic, Book III. Second Term:—The Psychology of Cognition, as in Murray's Handbook of Psychology, Book II., Part I.

Fourth Year.—First Term:—The Psychological Basis of Ethics. Second Term:—Ethics Proper, comprising the elementary principles of Jurisprudence and Political Science. *Text-Book*:—Murray's Introduction to Ethics.

In the Third and Fourth Years, Students are also required to write occasional essays on Philosophical subjects.

For Additional Courses see Honour Course.

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4. FRENCH LANGUAGE AND LITERATURE.

Professor:—P. J. Darey, M.A., B.C.L., LL.D., Officier d'Académie.

Sessional Lecturer:—Rev. J. L. Morin, M.A.

First Year.—Darey—Principes de Grammaire Française. La Fontaine—Choix de fables. Molière—l'Avare. Dictation. Colloquial exercises.

Second Year.—Racine—Esther. Ponsard—l'Honneur et l'Argent. Contanseau—Précis de Littérature Française, depuis son origine jusqu'à la fin du XVIIIe siècle. Translation into French:—Dr. Johnson—Rasselas. Dictation. Parsing. Colloquial exercises.

Third Year.—Racine—Iphigénie. Cogery—Third French course. Translation into French:—Johnson—Rasselas. Dictation. Contanseau—Précis de Littérature Française, dupuis le XVIIIe siècle jusqu'à nos jours.

Fourth Year.—Cogery—Third French course. Bonnefon—Les Ecrivains modernes de la France. Translation into French:—Morley—Ideal Commonwealths. French Composition. Dictation. Racine—Iphigénie.

For Additional Courses see Honour Lectures.

The Lectures in the Third and Fourth Years are given in French.

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5. GERMAN LANGUAGE AND LITERATURE.

Lecturer:—

First Year.—Vandersmissen's and Fraser's German Grammar. Adler's Progressive German Reader (selections from Sections 1 and 2). Translations, oral and written. Dictation. Colloquial exercises.

Second Year.—Vandersmissen's and Fraser's German Grammar. Adler's Progressive German Reader (Selections from Sections 3-5). Immermann; Der Oberhof. Parsing. Dictation. Colloquial exercises. Translations, oral and written.

Third Year.—Vandersmissen's and Fraser's German Grammar. Lessing, Minna von Barnhelm; Schiller, Seige of Antwerp. History of German Literature in the 18th and 19th centuries. German Composition. Dictation.

Fourth Year.—German Grammar and Composition. Goethe:—Aus meinen Leben; Schiller, Wallenstein. History of German Literature prior to the 18th century.

For additional Courses see Honour Lectures.

6. HEBREW AND ORIENTAL LITERATURE.

Professor :—Rev. D. Coussirat, B.A , B.D., Officier d'Académie.

Elementary Course.—Reading and Grammar, with oral and written exercises in Orthography and Etymology.—Translation and Grammatical Analysis of Genesis.—*Text-Books* :—Harper's Elements of Hebrew : and Introductory Hebrew Method and Manual

Intermediate Course.—Grammar.—Dr. Harper's "Elements and Method."—Translation from the Hebrew Bible —Exercises.—Hebrew into English, and English into Hebrew.—Syntax.—Reading of the Masoretic notes.

Advanced Course.—Gesenius' Grammar, and Harper's Elements of Syntax.—Exercises continued.—Translation from the Hebrew Bible.—Reading of the Masoretic notes and of the Septuagint Version.

The course comprises Lectures on the above Language and its Literature in particular, its genius and peculiarities with a general notice of the other Oriental Languages. Comparative Philology, affinity of Roots, etc , also receive due attention, while the portions selected for translation will be illustrated and explained by reference to Oriental manners, customs, history, etc.

For Additional Courses see Honour Lectures.

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7. MATHEMATICS AND NATURAL PHILOSOPHY.

(Peter Redpath Professorship of Natural Philosophy.)

Professor :—Alexander Johnson, M.A., LL.D.

In the ordinary work of the First Year, assistance will be given by G. H. Chandler, M.A., Professor of Practical Mathematics in the Faculty of Applied Science, and by M. H. Tory, B.A., Sessional Lecturers.

First Year.—Mathematics.—Arithmetic.—Euclid, Books 1, 2, 3, 4, 6, with definitions of Book 5 (omitting propositions 27, 28, 29 of Book 6) ; Todhunter's Edition—or Hall and Stevens'; the latter is recommended to Candidates for Honours especially. Colenso's Algebra (Part I) to end of Quadratic Equations.—Galbraith and Haughton's Plane Trigonometry to beginning of solution of Plane Triangles.

Second Year.—Mathematics.—Arithmetic, Euclid, Algebra and Trigonometry as before.—Nature and use of Logarithms.—Remainder of Galbraith and Haughton's Plane Trigonometry.

Physics.—*Elementary Mechanics.*—One lecture a week up to March. An examination will be held then, which must be passed in order to secure credit for attendance on the lectures.

The course for the Intermediate University Examination consists of the Mathematics for the first two years.

Third Year.—Mathematical Physics.—Galbraith and Haughton's Mechanics, viz. : *Statics*, first 3 chapters, omitting sec. 5, chapter I., and sec. 21, chapter II ; *Dynamics*, subjects of the first 5 chapters. Galbraith and Haughton's Hydrostatics. The lectures on this subject begun in the previous year will end about Christmas.

(*Optional but open to those only who have studied the above Mathematical Physics*). —Optics (Galbraith and Haughton). Astronomy (Lockyer's Elementary Astronomy, English edition; first three chapters, viz.: The Stars and Nebulæ; The Sun; The Solar System). Students are recommended to use with this an "Easy Guide to the Constellations," by Gall.

Fourth Year.—Astronomy.—(*Optional*) Galbraith and Haughton's Astronomy.—The lectures on this subject will be given before Christmas.

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8. EXPERIMENTAL PHYSICS.

(W. C McDonald Professorship.)

Professor:—John Cox, M.A.

Third Year.—Laws of Energy—Heat and Light.

Fourth Year.—Sound, Electricity and Magnetism.

In each year two hours a week will be devoted to fully illustrated experimental Lectures on the subjects named. Courses of practical work in the Physical Laboratory are arranged so that experiments, chiefly quantitative, bearing on the subjects treated in the Lectures, may be performed by the Students themselves. Opportunity is given to learn the nature and use of the principal instruments employed in the exact and practical measurement of physical quantities.

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9. GEOLOGY, MINERALOGY AND PETROGRAPHY.

(Logan Professorship of Geology.)

Professor:—Sir J. Wm. Dawson, C.M.G., LL.D., F.R.S., F.G.S.

B. J. Harrington, B.A., Ph.D., F.G.S., Professor of Mineralogy.

Frank D. Adams, M. Ap. Sc., Lecturer on Petrography and Physical Geology.

Fourth Year (1)—Mineralogy and Petrography.—An elementary course, in which attention is given more particularly to such minerals and rocks as are important in Geology or useful in the Arts.

(2) Physical Geology and Stratigraphy.—Denudation and Origin of Aqueous Deposits; Volcanoes and Earthquakes; Arrangement of Rocks on the large scale; Origin of Mountains; Field Geology and Construction of Geological Maps and Sections.

(3) Chronological Geology and Palæontology.—Classification of Formations; Geological Periods; Mineralization and Classification of Fossil Remains; History of the several Periods with the Fauna and Flora of each Distribution, more especially in Canada.

Saturday excursions will be made to points of interest, and Museum demonstrations will be given.

Text-Books.—Dawson's Handbook of Geology, Dana's Manual of Mineralogy. Books of reference will be indicated in the Library.

Students in Natural History are entitled to tickets of admission to the Museum of the Natural History Society of Montreal.

For Additional Departments see Honour Course, II., infra.

The Geology course is especially fitted to those Students who have taken the Natural Science studies of the previous years, but others are not excluded.

10. ZOOLOGY AND PALÆONTOLOGY.

Professor:—Sir J. William Dawson, LL.D., F.R.S.

Demonstrator:—W. E. Deeks, B.A.

Third Year.—Zoology and Palæontology. Elements of Animal Physiology. Classification of Animals. Characters of the Classes and Orders of Animals with recent and fossil examples, taken as far as possible from Canadian species,—the whole with reference to the study of Canadian Animals recent and fossil. Demonstrations in the Museum. *Text-Book.*—Dawson's Handbook of Zoology, with books of reference.

A prize of $20 will be given for a collection of specimens of recent or fossil animals, accurately named. The Prize collections or duplicates of them to remain in the Museum it required. Candidates must be students of Zoology of the previous session, and the prize will not be awarded except for a collection of sufficient merit, and belonging to some one class of recent animals, or the fossils of one geological system or one definite locality.

11. BOTANY.

Professor:—D. P. Penhallow, B.Sc.

Demonstrator:—Carrie N. Derick, B.A.

Second Year.—This course is designed to give the Students a thorough acquaintance with the principles of Morphology and Classification, the elements of Histology and the most prominent Physiological functions of the plant. The Flora of Canada will be given prominence as far as possible, and in descriptive work constant use will be made of the large Herbarium and of the Botanic Garden. So far as time will permit, weekly excursions will be made for field study of plants.

Text-Books.—Gray's Structural Botany. Gray's Manual. Penhallow's Classification. Penhallow's Guide to the Collection of Plants.

For the coming year a prize of $20.00 will be offered by Mr. Wm. Drysdale for the best collection of Canadian plants.

The specimens must be prepared in accordance with Penhallow's Guide to the Collection of Plants, Specimens collected by persons other than the actual competitors will not be admitted except when obtained by exchange. Competition is open to those students only who have taken the regular course of Botany in the previous session.

All collections will be returned after the awards are made.

Third Year.—Additional Course. *Vegetable Histology.*—Two lectures with practical work each week. Microscopical manipulations, micro-chemical reactions, general histology of Phanerogams. Microscopical Drawing.

Fourth Year.—Additional Course. *Vegetable Histology.*—Two lectures with practical work each week. A continuation of the Course in the third year embracing a study of the structure and life history of Cryptogams. No Student will be admitted to the Course in the Fourth Year without having followed that for the Third Year.

Text-Books.—Goebel's Outlines of Classification and Special Morphology.

Fee for Additional Course, $10 per session for use of instruments and reagents.

A prize will be awarded to the student showing the greatest proficiency in the work of the two years.

12. CHEMISTRY.

(David J. Greenshields Professorship of Chemistry and Mineralogy.)

Professor :—B. J. Harrington, B.A., Ph. D.

Sessional Lecturer :—Nevil N. Evans, B.A.Sc.

First Year.—A course of Lectures preparatory to the course in Natural Science. The Lectures are illustrated by experiments, and treat of the Elementary Constitution of matter, the Laws of Chemical Combination by weight and volume, the Atomic Theory, Quantivalence, Chemical Formulæ and Equations, Chemical Attraction, characteristics of Acids, Bases and Salts, Compound Radicals, the preparation and properties of the non-metallic and metallic Elements, and many of their compounds, etc. A few Lectures are usually devoted to the consideration of some of the more important Organic Substances, including Starch, Sugars, the Vegetable Acids and Alkaloids, Alcohol, etc. During the course attention is called as far as possible to the relations of Chemistry to various manufacturing industries.

Text-Book.—Remsen's Introduction to the study of Chemistry.

Third Year.—Additional Department (*The Chemistry of the Metals, or Organic Chemistry*).—One Lecture a week. (*Pratical Chemistry*).—Qualitative Analysis, as in Fresenius' Qualitative Chemical Analysis, two afternoons a week.

Fourth Year.—Additional Department.—A course of Practical Chemistry, in continuation of that of the Third Year.

Note.—The chemical laboratories are capable of accommodating about forty students, and afford excellent facilities for practical work. Students in Arts taking classes in Practical Chemistry pay a special fee of ten dollars for the session.

13. METEOROLOGY.

Superintendent of Observatory :—C. H. McLeod, Ma.E.

Instructions in Meteorological Observations will be given in the Observatory at hours to suit the convenience of the senior students.

Certificates will be granted to those students who pass a satisfactory examination on the construction and use of Meteorological Instruments and on the general facts of Meteorology.

14. PEDAGOGY.

Lectures on this subject will be given in the Normal School to undergraduates of the Third and Fourth Years who wish to obtain the Provincial Academy Diploma.

Lecture hours : 3 p. m., Tuesday and Friday.

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15. ELOCUTION.

Instructor :—J. P. Stephen.

Instruction is given in this subject at hours that will be settled at the beginning of the session. Special fee for session, $2.

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16. GYMNASTICS.

Instructor :—R. T. Mackenzie, B.A.

The classes will meet at the University Gymnasium, at hours to be announced at the commencement of the Session. The Wicksteed silver and bronze medals (the gift of Dr. R. J. Wicksteed) are offered for competition to Students of the Graduating Class and to Students who have had instruction in the Gymnasium for two sessions,—the silver medal to the former, the bronze medal to the latter. (See Regulations appended.)

II. HONOUR COURSES.

1. CLASSICS.

Third Year, for Session 1892-93 :—Greek :—Thucydides, Bk. VI. ; Herodotus, Bk. VII. ; Euripides, Medea ; Æschylus, Prometheus Vinctus.

Greek Prose Composition.—Grote's History of Greece (Selections) ; Mahaffy's History of Greek Literature (Selections) ; General Paper on Grammar, History and Literature.

Latin :—Horace, Epistles, Book I. ; Livy, Bks. XXI.—XXII. ; Terence, Adelphi ; Juvenal, Satires, III. and X. ; Cicero, De Imperio Cn. Pompeii, De Officiis ; Tacitus, Germania and Agricola.

Latin Prose Composition.—Mommsen's History of Rome (Selected portions).—Cruttwell's History of Roman Literature (Selected portions).—General Paper on Grammar, History and Antiquities.

Fourth Year.—Part I. (1) *Greek Authors* :—Æschylus, Prometheus Vinctus ; Sophocles, Antigone ; Euripides, Medea ; Herodotus, Bk. IX. ; Xenophon, Hellenics, Bks. I. and II. ; Æschines, Contra Ctesiphontem. (2) Latin *Authors* :—Horace, Epistles, Bk. I. ; Juvenal, Satires VIII. and XIII. ; Persius, Satires V. and VI. ; Livy, Bk. XXI. ; Tacitus, Annals, Bk. II. ; Cicero

De Officiis. (3) *Greek and Latin Prose Composition* :—As in Arnold's Greek Prose and Smith's Principia Latina, Part V. *Part II.*—(1) *Greek* :—Plato, Republic, Books I. and II.; Aristotle, The Poetic; Herodotus, Book VIII.; Thucydides, Books VI. and VII.; Hesiod, Works and Days; Æschylus, Seven against Thebes; Aristophanes, The Frogs; Pindar, Olympic Odes; Theocritus, Idylls I. to VI.; Demosthenes, De Corona. (2) *Latin* :—Livy, Books XXII. and XXIII.; Tacitus, Annals, Book I.; Tacitus, Histories, Book I.; Virgil, Æneid, Books I. to IV.; Plautus, Aulularia; Terence, Adelphi; Juvenal, Sat. X.; Cicero, De Imperio Cn. Pompeii. (3) *History of Greece and Rome* :—*Text Books.*—1. Grote's History of Greece. 2. Arnold's History of Rome. 3. Mommsen's History of Rome. 4. Mahaffy's History of Greek Literature. 5. Cruttwell's History of Roman Literature. 6. Cruttwell and Banton's Specimens of Roman Literature. 7. Haigh's Attic Theatre. (4) *Composition* :—Composition in Greek and Latin Prose. (5) General Paper on Grammar, History and Antiquities.

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2. MENTAL AND MORAL PHILOSOPHY.

THIRD YEAR.

Part I.—Schwegler's History of Philosophy, Chapters 1-21 inclusive; Mill's System of Logic, Books IV. and V.; James' Principles of Psychology, Chapters 17-22 inclusive; Thomson's Outlines of the Laws of Thought. Any two of these subjects, along with the Honour Lectures, may be taken as the Additional Course.

Part II.—Plato's Theaetetus (by S. W. Dyde); Fraser's Selections from Berkeley.

FOURTH YEAR.

Part I.—Schwegler's History of Philosophy, Chapters 22-45 inclusive; Lorimer's Institutes of Law; Descartes' Method and Meditation; Green's Prolegomena to Ethics; Mill's System of Logic, Book VI. Any two of these subjects, along with the Honour Lectures, may be taken as the Additional Course.

Part II.—Aristotle's Nicomachean Ethics; Zeller's Stoics, Epicureans and Sceptics; Spinoza's Ethics; Watson's Selections from Kant; Maine's Ancient Law.

N. B.—The class essays of Candidates for Honours are expected to display superior ability in the discussion of philosophical subjects.

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3. ENGLISH LANGUAGE, LITERATURE AND HISTORY.

THIRD YEAR.

Part I.—Early English; Morris and Skeat, Part II., Extt. I-IX. inclusive; Spencer—Faerie Queene, Bk. I.; Milton—Comus; Burke—Reflections on the French Revolution; Hallam—Middle Ages, chaps. 1, 3, 5. (The above-

mentioned portion of the Honour work constitutes the Additional Course of the Third Year.) Sweet's Anglo-Saxon Reader; Extt. IV., VIII. and XXI.; Dryden—Annus Mirabilis; Absolom and Achitophel, Part I.; the Preface to the "Fables;" Macaulay—Essays on Clive, Ranke's History of the Popes, and Warren Hastings.

Part II.—Sweet's Anglo-Saxon Reader; the pieces in verse; Chaucer—Assembly of Foules (ed. Lounsbury); Sidney—An Apologie for Poetry (ed. Arber, to be obtained by post from the editor, 1 Montague Road, Edgbaston, Birmingham, price 6d.); Milton—Shorter English Poems; Areopagitica (ed. Hales); Addison—Essays on Paradise Lost and on the Imagination (Spectator); Wordsworth—Prelude (Moxon's edition); Leslie Stephen—English Thought in the Eighteenth Century, Vol. II., chap. X., sections V-X. inclusive; Macaulay, Vol. I., chap. I.; Green, History of the English People—(Reigns of Eliz. and Chas. II.).

FOURTH YEAR.

Part I.—Sweet's Anglo-Saxon Reader, Extt. II., XIII., XX.; Pope—Essay on Criticism, Essay on Man; Shelley—Adonais; Tennyson—In Memoriam; Buckle—History of Civ. in England, 4 chaps. (The above-mentioned portion of the Honour work constitutes the Additional Course of the Fourth Year.) Early English; Morris and Skeat, Part II. Extt., X-XX. inclusive; Shakespere—Love's Labour Lost—A Midsummer Night's Dream—Hamlet; Matthew Arnold—Essays in Criticism (the second).

Part II.—Portion of Beowulf (ed. Harrison and Sharp); Sweet's Second Anglo-Saxon Reader; Vespasian Hymns; Sir Thomas More—Utopia (ed. Arber); Villiers—Rehearsal (ed. Arber); Campbell—Pleasures of Hope; Tennyson—Coming of Arthur, Gareth and Lynette, Holy Grail, Passing of Arthur; Gibbon—Decline and Fall, chaps. L., LI., LXIV., LXV.; Guizot—History of Civilization in Europe; Macaulay—Vol. I., chap. 3; Freeman—Growth of the English Constitution.

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4. MATHEMATICS AND PHYSICS.

First and Second Years.—MATHEMATICS.—Hall and Stevens' Euclid; McDowell's Exercises in Modern Geometry; Hall and Knight's Advanced Algebra; Todhunter's or Burnside and Panton's Theory of Equations (selected course); Lock's Higher Trigonometry, with McClelland and Preston's Spherical Trigonometry, Part I.; Salmon's Conic Sections, chapters 1, 2, 3, 5, 6, 7, and 10 to 13 inclusive; Williamson's Differential and Integral Calculus (selected course).

Third Year.—MATHEMATICAL PHYSICS.—Part I.—Minchin's Statics, Vol. I, selected chapters. Williamson and Tarleton's Dynamics, Chaps. I to 8 inclusive. Part II.—Remainder of Minchin's Statics, Vol. I., Besant's Hydro-mechanics, Part I., chaps. 1, 2, 3, 7; Godfray's Astronomy; Parkinson's Optics.

B. A. HONOUR COURSE.

Part I.—MATHEMATICAL PHYSICS.—Honour Course of the Third Year (the whole). PURE MATHEMATICS.—Williamson's Differential and Integral Calculus; Salmon's Geometry of Three Dimensions (selected course).

Part II.—PURE MATHEMATICS.—Boole's Differential Equations (selected course). MECHANICS.—Minchin's Statics, Vol. II., except chapters 14 and 18. Williamson's and Tarleton's Dynamics (the whole, including the Dynamics both of Rigid Bodies and of a particle). Routh's Dynamics of a Rigid Body (for reference). Besant's Hydro-mechanics.

PHYSICAL ASTRONOMY.—Godfrey's Lunar Theory, or Cheyne's Planetary Theory; Newton's Principia, Lib. I., Sects. 1, 2, 3, 9 and 11.

LIGHT.—Preston's Theory of Light.

ELECTRICITY AND MAGNETISM.—Ordinary Course, with Cumming's Theory of Electricity and Maxwell's Elementary Electricity.

HEAT, ACOUSTICS } As in ordinary course.

Engineering Students may be Candidates for Honours.

The above course in each year, and the lecture hours assigned to it in the time table, are subject to alterations or omissions, which will be made definitely known to Candidates for Honours at the beginning of the session.

5. GEOLOGY AND NATURAL HISTORY.

THIRD YEAR.

Part I.—Mineralogy.—Crystallography. Physical properties of minerals dependent upon light, electricity, state of aggregation, etc. Chemical composition. Principles of classification. Description of species important as constituents of rocks. (One lecture weekly during the First Term, and two during the Second.)

Part II.—Blowpipe Analysis and Determinative Mineralogy.—(One afternoon weekly in the Laboratory during the session. *Text-Book.*—Brush's Determinative Mineralogy and Blowipipe.)

Instructions will be given to the class for study and collection in the vacation.

B. A. HONOUR COURSE.

Part I.—(1) *Mineralogy.*—Description of mineral species, particular attention being called to the Economic Minerals of Canada. Calculations of Mineralogical Formulae, Quantivalent Ratios, etc. (Two lectures weekly in the First Term.)

(2) *Palæontology.*—Being an extension of that in the third year, with special studies of the more important group of Fossils. (One lecture and one demonstration weekly in the First Term.)

Part II.—(3) *Petrography.*—Essential and accessory constituents of Rock. Microscopic and macroscopic characters. Preparations of Rock-sections. Microscopic examination of Minerals and Rocks. Principles of classification. Description and determination of Rocks. (One lecture weekly in the Second Term, with additional practical work 4 hours weekly.)

(4) *Canadian Geology.*—Special studies of the Geology of the Dominion of Canada. (One lecture weekly in the Second Term.)

(5) *Practical and Applied Geology.*—Including methods of observing and recording geological facts, and searching for mineral deposits—Geology as applied to the Arts. (One lecture weekly in the Second Term.)

TEXT-BOOKS.—Dana, Geikie, Dawson, Nicholson, Survey Report, etc.

Candidates for Honours will be expected to attain such proficiency as to be able to undertake original investigations in some at least of the subjects of study.

Students in the Faculty of Applied Science may be Candidates for Honours.

ADDITIONAL DEPARTMENT.

Third Year.—Mineralogy as in Part I. above.

Fourth Year.—Palæontology and Practical Geology as in Parts I. and II. above. Or the student make take the Lectures in Mineralogy instead of Palæontology, or those in Petrography or Canadian Geology instead of Practical Geology.

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6. MODERN LANGUAGES.

(French and German, both of which must be taken.)

THIRD YEAR.

Part I.—FRENCH.—La Fontaine :—Les Fables. Racine :—Les Plaideurs. Paul Albert :—Littérature de XVIIe siècle. Translation into French.—Goldsmith :—The Vicar of Wakefield. Corneille :—Horace.

GERMAN.—Schiller, Wilhelm Tell. German Prose composition, Buchheim.

(Either of the above may be taken as the Additional Course in the language to which it belongs. See § III.)

The Ordinary Courses in French and German must also be taken. See § II.

Part II.—FRENCH.—Racine :—Phèdre, Les Plaideurs. Boileau :—L'Art Poétique. Pascal :—Les Pensées. Brunot.—Grammaire Historique.

GERMAN.—Wieland :—Oberon. History of German Literature in the 16th, 17th and 18th centuries; Gostwick and Harrison.

FOURTH YEAR.

Part I.—French.—Brunot :—Grammaire Historique. Paul Albert :—La Littérature Française dès les origines à la fin du XVIe siècle. Emile Souvestre: —Un Philosophe sous les toits. Translation into French :—As You like it.

GERMAN.—Lessing, Nathander Weise; Wieland : Die Abderiten. German Prose Composition, Buchheim.

(Either of the above may be taken as the Additional Course in the language to which it belongs.)

The Ordinary Courses in French and German must also be taken.

Part II.—FRENCH. Molière :—Le Misanthrope. Victor Hugo :—Hermani. La Rochefoucauld :—Les Maximes. Montaigne :—Les Essais (Extraits par Eug. Voizard). Brunot :—Grammaire Historique. Constans :—Chrestomathie, des anciens textes Français.

GERMAN.—A special study of Goethe's "Faust" (Part I.). Selections from Heine's Lyrical Poems. Paul :—Middle High German Grammar. Zarnke : —Das Niebelungen Lied. History of German Literature in the 13th, 14th and 15th centuries.

For First and Second Rank Honours the successful Candidates must be capable of speaking and writing both languages.

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7. SEMITIC LANGUAGES.

THIRD YEAR.

Part I.—Hebrew.—Genesis. Isaiah, 40-66. Ecclesiastes. *Literature.*—F. Lenormant : The beginning of History.

Part II.—Aramaic.—Daniel, Ezra. *Literatare.*—Sayce : Lectures on the Origin and Growth of Religion.

FOURTH YEAR.

Part I.—Hebrew.—Malachi. Psalms, 1-72. Job, 27-42. *Aramaic.*—Selections from the Targums of Onkelos and Jonathan Ben Uzziel. *Literature.*—Renan : A general History of the Semitic Languages ; or, Noldeke : Semitic Languages.

Part II.—Syriac.—Peshito : St John's Gospel, 1-15. Bar Hebrœus : Selections from his Chronicles. *Literature.*—W. Wright : Comparative Grammar of the Semitic Languages.

LECTURES IN THE UNDERGRADUATE COURSE IN THE FACULTY OF ARTS.

SESSION OF 1892–93.

	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
FIRST YEAR.	9	Latin.	† Mathematics. (*b*)	Mathematics.	† Mathematics. (*b*)	Mathematics.
	10	Mathematics.	Greek.	Latin.	Latin.	Greek.
	11	English.	* French.	* French.	* French.	English.
	12	Elementary Chemistry.	* German. * Hebrew.	English.	* German. * Hebrew.	Elementary Chemistry.
SECOND YEAR.	9	* French.	Logic.	* French.	* Hebrew.	* French.
	10	Greek.	* Hebrew.	Logic.	Logic.	* German. † Mathematics.
	11	Mathematics.	Latin.	† Mathematics. Botany.	Latin.	Greek.
	12	† Mathematics. Botany.	* German (*c*). Math. Phy.	English (*b*). Latin (*a*.)	* German (*c*.)	English.
THIRD YEAR.	9	English Literature.	Greek. Geol. † (*b*)	† Greek. † Math. Phy.	Greek.	† Greek. † English. † Geol.
	10	Geology. (*b*) German. † Math. Physics.	French. † Ment. Phil.	† Anglo-Saxon. Physics (Mathematical).	French. Chemistry.	German. † Math. Phys.
	11	† Mental Philosophy. Mental Philosophy.	† Latin. Zoology.	Mental Philosophy.	Hebrew. Zoology.	Rhetoric. * Syriac, etc. Math. Physics.
	12	† Latin	Experimental Physics.	Latin.	Experimental Physics.	Latin.
	1		Hebrew.		Hebrew.	
FOURTH YEAR.	9	Exp. Physics. † English.	Astronomy. (*a*)	† Greek. Geology. † Math. Phy.	Exp. Physics.	† Greek. † Math. Physics
	10	Geology.	French. † Ment. Phil.	English Literature.	† Mental Philosophy.	Geology.
	11	Latin. † Geology.	Moral Phil. † Math. Phys.	Greek.	German. History. Moral Philosophy.	French. † Geology. Anglo-Saxon and Early English.
	12	Moral Phil.	† Chaldee.	† Geology. Hebrew.	† Chaldee. Astronomy. (*a*)	German.
	1				Hebrew.	

(*a*) During First Term. (*b*) Second Term. (*c*) For beginners entering 2nd Year. † For Candidates for Honours.
* The Student may take at his option French or German in the first two years, or, if a Theological Student, Hebrew.
Classes at 1 p.m. may be changed to other hours.
Library open every day, 9 to 4. The Museum will be opened as arranged by the Principal.
Determinative Mineralogy, Wednesday, at 2 p.m. Practical Chemistry, Monday and Thursday, at 2 p.m., for 3d and 4th Years; First Year with the Class in Applied Science.

Special Course for Women.

IN THE FACULTY OF ARTS.

DONALDA ENDOWMENT.

Professors and Lecturers (as on page 1). Lady Superintendent, Miss HELEN GAIRDNER.

The classes for women under this endowment are wholly separate, except those for Candidates for Honours (including most of the additional courses in the Third and Fourth Years). The examinations are identical with those for men. Women will have the same privileges with reference to Classing, Honours, Prizes and Medals as men.

Regulations for Examinations, Exemptions, Boarding-Houses, Attendance, Conduct, Library and Museum are same as for men. Undergraduates wear the Academic Dress; others do not.

(Associates in Arts, who, at their special Examination, have passed in Latin, Algebra and Geometry, are not required to present themselves for the Matriculation Examination in these subjects.)

The *Jane Redpath Exhibition* is open for competition, at the beginning of the First or Second Year, to both men and women.

Two other Exhibitions (one of the value of $100, along with free tuition, the other $120 without free tuition) are open for competition in the First or Second Year to Students of the Donalda Department only. For course see § II. *ante*. Candidates for these Exhibitions are allowed, according to the general rule of the Donalda Department, to substitute a Modern language for Greek in the examination. In this case while the regulation concerning one modern language will for Entrance only be as in § II *ante*, the course in that which is to be substituted for Greek in the Exhibition Examination will be :—

For First Year :—

French :—Grammar—Darey's French Grammar. La Fontaine's Fables. Molière—Le Bourgeois Gentilhomme. Sardou—Mlle de la Seiglière. Translation from English into French.

or *German*:—Grammar—Vandersmissen and Fraser's German Grammar. Adler's Reader:—First and Scond Parts. Schiller—Der Gangnach den Eisenhammer. Schiller—Das lied von der Gloche. Translation from English into German.

For Second Year:—

French:—Racine, Iphigenie. Dr. C. Saucerote—l'Esprit de Montaigne. Lamartine, Jeanne d'Arc.

or *German*:—

Schiller, Der Neffe als Onkel.
Egmont, Leben und Tod.
Die Kraniche des Ibycus (Buchheim).
Grammar. Translation of French and English into German.

One free tuition may be awarded to a Candidate who approaches very near to the winner of either of the Exhibitions.

The income of the *Hannah Willard Lyman Memorial Fund* will be given in prizes.

I. MATRICULATION AND ADMISSION.

Classics.—I. *Latin.*—Caesar, Bell. Gall., Book I.; and Virgil, Aeneid, Book I, lines 1-300; Latin Grammar. [In 1893, and afterwards, the whole of Aeneid, Bk. I., will be required.]

Greek.—Xenophon, Anabasis, Book I.; Greek Grammar.

Candidates who cannot pass in Greek may substitute an additional modern language, subject to the same regulations throughout the course of four years.

Mathematics.—Arithmetic including a knowledge of the Metric System; Algebra to Quadratic Equations (inclusive); Euclid, Elements, Books I., II., III.

English.—Writing from Dictation. A paper on English Grammar, *including Analysis.* A paper on the leading events of English History. Essay on a subject to be given at the time of the Examinations.

French.—Grammar up to the beginning of Syntax. An easy translation from French into English. Candidates taking Greek and unable to take French are not excluded, but will be required to study German after entrance.

An equivalent amount of other books or other authors in Latin and Greek than those named may be accepted by the Examiners on application made through the Professor of Classics.

PARTIAL STUDENTS.—Candidates unable to pass in all the above subjects may be admitted as Partial Students, in the separate classes; if prepared to enter in three of the subjects of the ordinary course of study, they may in the First Year make good their standing as Undergraduates at the Christmas or Sessional Examinations.

Occasional Students.—Ladies desirous of taking one or two Courses of Lectures in the separate classes for women, as Occasional Students, will report their names and the classes they desire to attend to the Lady Superintendent, and may then procure tickets from the Secretary of the University.

II. ORDINARY COURSE OF STUDY FOR THE DEGREE OF B.A.

In Separate Classes.

First Year.—Classics; French or German; English Grammar and Literature; Pure Mathematics; Elementary Chemistry.

Second Year.—Classics; French or German; English Literature; Elementary Psychology and Logic; Pure Mathematics and Mathematical Physics; Botany.

Third Year.—Latin or Greek; Mathematical Physics (Mechanics and Hydrostatics); with any three subjects out of the two following divisions, at the option of the Student, provided two be selected from one division and one from the other :—

I. Literature, etc.—(*a*) Greek or Latin, according as Latin or Greek has been previously chosen. (*b*) French or German (whichever has been taken in the first two years). (*c*) English and Rhetoric. (*d*) Mental Philosophy.

II. Science.—(*e*) Optics and Descriptive Astronomy. (*f*) † Experimental Physics. (*g*) Natural Science (Zoology).

Fourth Year.—Latin or Greek, same Language as in Third Year; Mathematical Physics (as in Third Year), or Astronomy and Optics; Moral Philosophy with any three subjects out of the two following divisions, at the option of the Student, provided two be selected out of the one division, and one out of the other.

I. Literature, etc.—(*a*) Greek or Latin, according as Latin or Greek has been taken above. (*b*) French or German, same language as in Third Year. (*c*) History.

II. Science.—(*d*) Astronomy and Optics, if not chosen as above. (*e*) † Experimental Physics. (*f*) Natural Science (Geology).

† Undergraduates claiming exemptions (see § V.) cannot take Astronomy and Optics or Experimental Physics if they have not taken the Third Year Mathematical Physics.

Instead of two distinct subjects in one of the above divisions, the Student in either Third or Fourth Year may select one subject only, together with an additional course in the same, or any other of these subjects under the above rules (if arrangements be made by the Faculty for it), provided she has been placed in the first class in the corresponding subject at the preceding Sessional Examination (viz., Intermediate or Third Year, according to standing).

The additional course is intended to be more than an equivalent, in the amount of work involved, for any of the other subjects in the Division.

Additional courses are provided at present in Botany and Practical Chemistry.

Gymnastics.—A class will be conducted by Miss Barnjum, which will be optional and open to Occasional Students.

Elocution.—Instruction in this subject will be given to those who desire it, by Mr. J. P. Stephen. Special fee for session, $2.

HONOUR COURSES AND ADDITIONAL COURSES.

(*In Mixed Classes.*)

Undergraduates desirous to take one of the Honour Courses in Classics, Mathematics, Mathematical Physics, Mental and Moral Philosophy, English Language and Literature, History, Geology and other Natural Sciences, Modern Languages; or such portions of the Honour Courses as constitute the "Additional Courses," may in the Third and Fourth Years obtain exemptions to the same extent as those given to men, but must take the same lectures with men.

Details will be found in Section XII. of the Calendar.

III. DEGREES.

Students are admissible to the degrees of B.A., M.A., and LL.D., conferred in the usual way, on the usual conditions; and will be entitled to all the privileges of these degrees, except that of being elected as Fellows.

IV. FEES.

The fees are the same as for men (see Section XI., *ante.*), except in the case of Partial Students, who are required in the case of the "Special Fee" to pay for the Ordinary Examinations and Annual Registration only, viz., $5; the fees for the Library and Gymnasium ($5 for each) are optional.

The fees are to be paid to the Registrar of the University, from whom Tickets for the Library and copies of the Library Rules may be obtained.

Exemptions from fees may be allowed to the highest pupil of the Girls' High School of Montreal, and of other Schools, on the same terms as to men.

One exemption from tuition fees is annually allowed to the pupil (boy or girl) of the Montreal High School holding an exemption from the Schools of the Protestant Commissioners, Montreal, who has taken the highest marks at the A. A. Examinations and is recommended by the Commissioners.

V. LODGINGS, &c.

Women not resident in Montreal, proposing to attend the classes, and desiring to have information as to suitable lodgings, are requested to intimate their wishes in this respect to the Registrar of the University, at least two weeks before the opening of the session.

Students desiring information as to the above or other matters are referred to the Lady Superintendent, who will be found in her office in the rooms of the Donalda Department, every day during the session, except Saturday.

LECTURES OPEN TO OCCASIONAL STUDENTS, SESSION 1892-93.

CHEMISTRY:—*Dr. Harrington.* Tuesday and Thursday at 12.

BOTANY:—*Prof. Penhallow.* Monday at 11, Wednesday at 12.

ZOOLOGY:—*Sir Wm. Dawson.* Tuesday and Thursday at 12.

GEOLOGY:—*Sir Wm. Dawson and Mr. Adams.* Monday and Friday at 12. Wednesday at 10 a. m.

EXPERIMENTAL PHYSICS:—*Professor Cox.* Tuesday and Thursday, at 10 a.m. and 11 a.m.

PSYCHOLOGY AND LOGIC:—*Rev. Dr. Murray and Mr. Lafleur.* Tuesday and Friday at 4 p.m., and Monday at 3 p.m.

MENTAL PHILOSOPHY:—*Rev. Dr. Murray and Mr. Lafleur.* Monday at 4 p.m. and Wednesday at 3 p.m.

MORAL PHILOSOPHY:—*Rev. Dr. Murray.* Tuesday and Wednesday at 12, and Friday at 11 a.m.

RHETORIC:—*Mr. Lafleur.* Tuesday at 11 a.m.

ENGLISH:—*Prof. Moyse.* Language and Literature, Tuesday, Wednesday and Friday at 4 p.m. Poets of the 19th Century, Wednesday, 3 p.m. Shakespere, every alternate Friday at 3 p.m. Chaucer, Monday at 10 a.m.

HISTORY:—*Prof. Moyse.* Thursday at 9 a.m.

LATIN AND GREEK*: —*Rev. Dr. Cornish and Dr. Eaton.*

FRENCH*:—*Dr. Darey.*

GERMAN*:—

MATHEMATICS AND MATHEMATICAL PHYSICS*:—*Dr. Johnson and Mr. Tory.*

Those Courses in which two lectures weekly are delivered will each amount to about 45 lectures, and the others in proportion.

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* The lectures on these subjects extend over all the Years of the Course, and the hours will depend on the standing of Students with respect to previous preparation as ascertained by examination.

FACULTY OF ARTS.

*Ordinary Lectures in the Donalda Special Course for Women.

Years	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
First Year.	9	† Mathematics (*b*)				
	11			† Mathematics (*b*)		
	12		Chemistry.		Chemistry.	
	2	Mathematics	French.	Mathematics.	French.	Mathematics.
	3	Latin.	German.	Latin.	Latin.	German.
	4	Greek.	English.	English.	Greek.	English.
Second Year.	10	Mathematics.	Math. Phy.		Greek.	Latin.
	11	Botany.	Mathematics.	Latin.	† Mathematics.	
	12	Greek.	Latin.	Botany.		
	2					
	3	Logic.	French.	English.	French.	English.
	4	German.	Logic.		German.	Logic.
Third Year.	10	English.	Greek.		Greek.	French.
	11	French.	Rhetoric Exp. Physics.		Exp. Physics.	Latin.
	12	Latin.	Zoology.	Math. Physics.	Zoology.	Math. Physics
	3	German.		Metaphysics.	German.	
	4	Metaphysics.				
Fourth Year.	9	Astronomy (*a*)			History.	
	10	French.	Exp. Physics.	Geology.	Exp. Physics.	French.
	11	German.	Latin.	Astronomy (*a*).	Greek.	Moral Phil.
	12	Geology.	Moral Phil.	Moral Phil.		Geology.
	2					German.

The hours for Practical Chemistry and Additional Botany will be arranged at the beginning of the Session.

† For Candidates for Honours.

* For Honour Lectures in 3rd and 4th years see previous table.

(*a*) During First Term.

(*b*) During Second Term.

Faculty of Applied Science.

THE PRINCIPAL (*ex-officio*).

Professors:—HARRINGTON. BOVEY. MCLEOD. CHANDLER. CARUS-WILSON. NICOLSON.

Associate Professors:—DAWSON. DAREY. MOYSE. PENHALLOW. COX.

Lecturers:—CARLYLE, EVANS.

Associate Lecturers:—LAFLEUR, ADAMS, MORIN.

Assistant:—TAYLOR.

Dean of the Faculty:—HENRY T. BOVEY, M.A., M.Inst.C.E., F.R.S.C.

§ I. GENERAL STATEMENT.

The Instruction in this Faculty is designed to afford a complete preliminary training of a practical as well as theoretical nature, to such Students as are preparing to enter any of the various branches of the professions of Engineering and Surveying, or are destined to be engaged in Assaying, Practical Chemistry, and the higher forms of Manufacturing Art.

Five distinct Departments of study are established, viz.:—

(1).—Civil Engineering and Surveying. (2).—Electrical Engineering. (3).—Mechanical Engineering. (4).—Mining Engineering. (5).—Practical Chemistry.

Each of these extends over four years, and is specially adapted to the prospective pursuits of the Student. The subjects of instruction in the several Departments are given in the Table on the following page.

The Degrees conferred by the University upon such undergraduates of this Faculty as shall fulfill the conditions and pass the Examinations hereinafter stated will be, in the first instance, "Bachelor of Applied Science," mention being made in the Diploma of the particular Department of study pursued; and, subsequently, the degree of "Master of Engineering" or of "Master of Applied Science." (§ IV.)

§ II. TABLE SHOWING THE SUBJECTS OF INSTRUCTION, AND HOURS PER WEEK DEVOTED TO EACH SUBJECT.

	SUBJECTS.	Description under	Civil Engineering.	Electrical Engineering.	Mechanical Engineering.	Mining Engineering.	Practical Chemistry.
FIRST YEAR.	Chemistry	§ XI., 8	5 to 8	5 to 8	5 to 8	5 to 8	5 to 8
	English	" 14	3	3	3	3	3
	French or German	" 15	3	3	3	3	3
	Mathematics	" 13	10	10	10	10	10
	Freehand Drawing	" 4	3	3	3	3	3
	Geometrical Drawing	" 3	3 to 6	3 to 6	3 to 6	3 to 6	3 to 6
	Shopwork	§ XIV.	7	7	7	7	7
SECOND YEAR.	Botany	§ XI., 11	—	—	—	—	2
	Chemistry	" 8	—	—	—	7	14
	English	" 14	1	1	1	1	1
	French or German	" 15	2	2	2	2	2
	Mathematics	" 13	6	6	6	6	2
	Mechanism	" 6	—	2	2	—	—
	Physics	" 12	2	2	2	2	?
	Surveying	" 2	3	—	—	3	—
	Zoology*	" 10	3	—	—	3	—
	Drawing	" 3	8	8	8	6	—
	Physical Laboratory	§ XII., 3	6	6	6	3	5
	Shopwork	§ XIV.	3	6	6	3	—
THIRD YEAR.	Chemistry	§ XI., 8	—	—	—	6	16
	Determinative Mineralogy	" 8	—	—	—	3	3
	Geology and Mineralogy * *	" 10	3	—	—	4	4
	German	" 15	—	—	—	—	2
	Kinematics and Dynamics of Machinery	" 6	—	2	2	—	—
	Mathematics	" 13	3	3	3	3	—
	Mechanism	" 6	2	—	—	2	—
	Mining	" 7	—	—	—	3	—
	Physics	" 12	2	2	2	2	2
	Surveying	" 2	3	—	—	3	—
	Theory of Structures	" 1	4	3 (a)	3	3	—
	Zoology *	" 10	—	—	—	—	3
	Drawing	" 3	9	6	6	3	—
	Electrical Laboratory	XII., 6	—	6 (b)	—	—	—
	Physical Laboratory	" 3	3	9	3	3	3
	Testing Laboratory	" 4	6	3 (a)	3	—	—
	Shopwork	§ XIV.	—	6	6	—	—
FOURTH YEAR.	Assaying	§ XI., 18	—	—	—	9	—
	Chemistry	" 8	—	—	—	—	24
	Dynamics of Machinery	"	—	1	1	—	—
	Electrical Engineering	" 6	—	2	—	—	—
	Geodesy	" 2	2	—	—	—	—
	Geology and Mineralogy * *	" 10	—	—	—	3 to 6	3
	Hydraulics	" 1	2	—	2	2	—
	Machine Design	" 6	—	1	1	—	—
	Mathematics	" 13	3	3	3	2	—
	Metallurgy	" 7	—	—	—	2	—
	Theory of Structures	" 1	4	—	—	—	—
	Thermodynamics	" 9	1	1	1	—	—
	Drawing (Designing)	" 3	6	3	9	—	—
	Electrical Laboratory	§ XII., 6	—	14	—	—	—
	Geodetic Laboratory	" 7	3	—	—	—	—
	Hydraulics Laboratory	" 8	3	—	3	3 (a)	—
	Mechanical Laboratory	" 9	—	—	6	—	—
	Museum Work		—	—	—	6	—
	Physical Laboratory	" 3	Opt.	8	Opt.	Opt.	Opt.
	Testing Laboratory	" 4	3	—	—	—	—
	Thermodynamic Laboratory	" 5	3	—	—	—	—
	Shopwork	§ XIV.	3	4	4	—	—

(a) First term. (b) Second Term. * Besides study in the Museum.
* * Also Saturday excursions, and Museum and Petrographical work.

§ III. MATRICULATION AND ADMISSION.

Candidates for examination must present themselves on the first day of examinations, and all Students must attend punctually at 9 a.m. on Wednesday, September 21st, when the lectures will begin.

Examinations for entrance will be held (1) on June 1st and following days in McGill College and at local centres, and (2) on Friday, September 16th, and following days in McGill College only.

Any Head Master or other person desiring a local examination in June must, before May 10th, submit the name of some suitable person, preferably a University graduate, who is willing to act as Deputy Examiner, *i.e.*, receive the questions, hold the examinations, and forward the answers to Montreal. Further particulars relating to this examination will be given on application to the Secretary of the University.

SUBJECTS OF EXAMINATION.

MATHEMATICS.—*Arithmetic*—All ordinary rules, including square root, and a knowledge of the Metric System.

Algebra—Elementary rules, involution, evolution, fractions, indices, surds, simple and quadratic equations of one or more unknown quantities.

Geometry—Euclid, Bks. I., II., III., with easy deductions. (Students are advised to study also Books IV. and VI. before entrance, but will not be examined thereon.)

Trigonometry—As in Hamblin Smith, pp. 1-100, omitting Ch. XI.

ENGLISH—*Dictation. Grammar* (including analysis).

After entrance, one modern language, viz., FRENCH or GERMAN, must be studied. In the former subject an entrance examination (to the beginning of Syntax, with easy translation) will be held at the same time as the other examinations. The German may be taken without previous examination.

Candidates who produce certificates of having already completed a portion of a course in some recognized School of Applied Science may be admitted to an equivalent standing.

PARTIAL STUDENTS.—Students may be allowed to take one or more courses of instruction upon showing by examination or otherwise that they are qualified to do so.

§ IV. EXAMINATIONS.

I. FOR THE DEGREE OF BACHELOR OF APPLIED SCIENCE.

1. FACULTY EXAMINATIONS.

There will be a Christmas Examination for Students of the First Year in all the subjects, and for Students of the Second, Third and Fourth Years in Mathematics, and in those subjects which they take in the Faculty of Arts. A Sessional Examination in all the subjects will be held at the end of the First and Second Years.

2. UNIVERSITY EXAMINATIONS.

(*a*) There will be a Primary Examination at the end of the Third Year in all subjects of that year. Candidates must pass this Examination before entering the Final Year.

(*b*) There will be a Final Examination for the degree of Bachelor of Applied Science at the end of the Fourth Year, in all the subjects of that year.

Successful Students will be arranged in order of merit.

II. FOR THE DEGREE OF MASTER OF ENGINEERING.

Candidates must be Bachelors of Applied Science of at least three years standing, and must produce satisfactory certificates of having been engaged during that time upon *bona fide* work in either the Civil, Electrical, Mechanical, or Mining Branch of Engineering.

They must pass with credit an examination extending over the general theory and practice of Engineering, in which papers will be set having special reference to that particular branch upon which they have been engaged during the three preceding years.

Candidates must present applications for Examinations, together with the necessary certificates and fees. The Faculty will notify the candidates whether their certificates are satisfactory, and also of the date of the Examination. (See also § V.)

III. FOR THE DEGREE OF MASTER OF APPLIED SCIENCE.

Candidates must be Bachelors of Applied Science of at least three years standing, must present certificates of having been em-

ployed during that time in some branch of scientific work, and must pass with credit an examination on the Theory and Practice of those branches of scientific work in which they may have been engaged. The other conditions as under the last heading. (See also § V.)

§ V. POST-GRADUATION COURSES.

Students who take the Bachelor's degree in one of the courses provided by the Faculty of Applied Science may graduate in any of the remaining courses by attending one or more subsequent sessions.

Graduates may also take an advanced course in the branch in which they have received their degree. On passing an examination at the end of such advanced course, the Master's degree will be given without further examination as soon as satisfactory certificates of having been employed for two years in practical work have been received.

§ VI. ATTENDANCE AND CONDUCT.

The regulations under this head are in all respects the same as those in force for Undergraduates in Arts.

§ VII. LIBRARY AND MUSEUM.

Students in this Faculty have the same privileges with reference to the Library and Museum as Undergraduates in Arts.

§ VIII. FEES.

The total fees for all Students, excepting Students of the Third and Fourth Years who entered previous to September, 1890, will be $100.00 per annum, of which amount the sum of $63.00 is for tuition, $12.00 are University fees (matriculation, library, graduation, etc.), and $25.00 are for the use of the machinery and other apparatus, as well as the cost of material in the workshops and engineering laboratories. The present Fourth Year Students will obtain similar privileges on payment of a special fee of $10.

Every Student will be required to deposit with the Secretary of the University the sum of $5.00, as caution money for damage done to the machinery or other apparatus.

Partial Students may be admitted to the Professional Classes in any year by payment of the ordinary fees for that year; or they may attend the lectures on any subject by payment of a special fee.

SPECIAL WORKSHOP FEES.—Partial Students desirous of taking the workshop courses will be required to pay the following fees, which include cost of materials and use of all tools:

1 day, or 7 hours per week for the whole Session from				September to April:	$25 00
2 days, or 14	"	"	"	"	45 00
3 days, or 21	"	"	"	"	60 00
4 days, or 28	"	"	"	"	70 00

The fees must be paid to the Secretary, and the tickets shown to the Dean, within a fortnight after the commencement of attendance in each Session. In case of default, the Student's name will be removed from the College books, and can be replaced thereon only by permission of the Faculty, on payment of a fine of $1.

Students are required to purchase their own chemicals, etc., except in the First Year. The larger pieces of chemical apparatus will be supplied by the Laboratory, the Students being responsible for breakage.

Graduates in the Faculty of Applied Science may take further courses on payment of half the ordinary tuition fees.

Fee for the Degree of MASTER OF ENGINEERING or MASTER OF APPLIED SCIENCE, $10.00.

If for any special reason the Degree of MA.E., or M.A.SC., be granted *in absentiâ*, the fee will be $25.00.

NOTE.—For Students of the Third and Fourth Years, who entered previous to September, 1890, the fees will be $49.00 for each session in the courses of Civil and Mechanical Engineering, and $59 00 for each session in the courses of Mining Engineering and Practical Chemistry.

The graduation fee for such Students will be $12.50.

§ IX. MEDALS, EXHIBITIONS, PRIZES AND HONOURS.

1 The British Association Gold Medal and Exhibition, founded by the British Association for the Advancement of Science, in commemoration of the meeting held in Montreal in the year 1884.

The British Association Gold Medal for the Session 1892-93 will be awarded to the Student in the Fourth Year who takes the highest standing in the Civil Engineering Course.

2. The Stanley Silver Medal (the gift of His Excellency The Right Honourable Lord Stanley).

The Stanley Medal for the Session 1892-93 will be awarded in the Fourth Year.

The following Exhibitions and Prizes will be open for competition at the beginning of the session, *Students being required to notify the Dean of their intention to compete, at least one week before the commencement of the examinations :*

3. A British Association Exhibition of $50.00 to Students entering the Fourth Year, the subjects of examination being the Mathematcs and Theory of Structures of the Ordinary Course.

4. A Scott Exhibition of $60.00, founded by the Caledonian Socety of Montreal, in commemoration of the Centenary of Sir Walter Scott, to Students entering the Third Year, the subjects of Examination being :—

(*a*) Macaulay's History of England, Vol. I, cap. I ; Scott's Lady of the Lake. (*b*) Mathematics of the Second Year Course. (*c*) Mechanism

5 A British Association Prize of $25.00 will be open for competition to Students entering the Second Year, the subjects of Examination being :—

(*a*) Macaulay's History of England, Vol. I, cap. I ; Shakespeare's Tempest. (*b*) Mathematics of the First Year course.

6 Two Prizes in Books, each of the value of $25.00, one presented by E. B. Greenshields, B.A., and one presented from the British Association Fund, for the two best Summer Reports or Essays.

7. A Prize of $25.00, presented by P. A. Paterson, M. Inst. C.E., for the best Summer Essay on any structural work connected with the profession of Civil Engineer.

8. Two Prizes, each of $10.00, from the British Association Medal Fund, to Students entering the Third Year, for proficiency in Levelling or Transit Work.

9. A Prize of $20.00, from the British Association Medal Fund, to Students entering the Second Year, the subjects of examination being:—(*a*).—Inorganic Chemistry; (*b*).—Elements of Organic Chemistry; (*c*).—Practical Chemistry.

10. A Prize of $15.00, presented by A. T. Taylor, F.R.I.B.A., to be offered for competition to Students matriculating into the First Year, for proficiency in Freehand and Model Drawing.

11. Three Prizes of $25.00, $20.00 and $15.00, presented by H. Garth, will be awarded to the candidates taking the highest standing in the September matriculation examinations, as determined by the results in English, Mathematics, and French or German; open to all Students entering the First Year.

12. Prizes or certificates of merit are given to such Students as take the highest place in the Sessional and Degree Examinations.

13. HONOURS.—On graduation, Honours will be awarded for advanced work in Professional subjects.

14. By the will of the late Dr. T. Sterry Hunt, F.R.S., an endowment has been provided for Scholarships in Practical Chemistry which it is hoped will be available before the close of next session.

15. SCIENCE SCHOLARSHIPS GRANTED BY HER MAJESTY'S COMMISSION FOR THE EXHIBITION OF 1851.—These Scholarships of £150 sterling a year in value are tenable for two or, in rare instances, three years. They are limited, according to the Report of the Commission, "to those branches of Science (such as Physics, Mechanics and Chemistry) the extension of which is specially important for our national industries." Their object is, not to facilitate ordinary collegiate studies, but "to enable Students to continue the prosecution of science with the view of aiding in its advance or in its application to the industries of the country."

A nomination to one of these scholarships for the year 1891 was placed by the Commission at the disposal of McGill University, and another may be granted in 1893.

It is open to Students of not less than three years standing in the Faculties of Arts or Applied Science, and is tenable at any University or at any other Institution approved by the Commission.

16. Workshop Prizes.—(*a*) A prize of $20.00, presented by C. J. Fleet, B.A., B.C.L., for bench and lathe work in the wood-working department, open to Students of not more than two terms standing in workshop practice.

(*b*) A Prize of $20.00, presented by J. Peck, for machine work.

(*c*) A Prize of $20.00, presented by H. Garth, for smith work.

(*d*) A Prize of $20.00, presented by H. Garth, for foundry work.

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§ X. SPECIAL PROVISIONS.

1. Partial Students may be admitted to the professional classes upon payment of special fees (§ VIII).

2. Students in Applied Science may, by permission of the Faculty, take the Honour Classes in the Faculty of Arts.

3. Students and Graduates in Arts will be admitted to such standing in the Faculty of Applied Science as their previous studies will warrant, but are recommended to take the drawing and shop-work during their Arts Course.

4. Undergraduates in Arts of the Second and Third Years, or Graduates of any University, entering the Faculty of Applied Science, may, at the discretion of the Professors, be exempted from such lectures in that Faculty as they have previously attended as Students in Arts.

5. Students who have failed in a subject in the Christmas or Sessional Examinations, and who desire to regain their standing, are required to make a written application to the Dean of the Faculty for a supplemental examination. Unless such supplemental examination is passed, Students will not be allowed to proceed to any subsequent examination in the subject.

6. Students may be required to answer satisfactorily a weekly paper on such subjects of the course as shall be determined by the Faculty.

7. Students who fail to obtain their Session, and who, in consequence, repeat a Year, will not be exempted from examination in any of those subjects in which they may have previously passed, except by the express permission of the Faculty. Application for such exemption must be made at the commencement of the Session.

8. A Student may obtain a certificate of standing on payment of a fee of $2.00.

9. Certificates may be given to Students who have passed through any of the special courses attached to the curriculum.

10. The headquarters of the Canadian Society of Civil Engineers is at present located in Montreal. The Society holds fortnightly meetings, at which papers upon practical current engineering subjects are read and discussed. Undergraduates joining the Society as Students may take part in these meetings, and acquire knowledge of the utmost importance in relation to the practical part of the profession.

11. Caps and gowns, also the overalls for the workshops, may be obtained from the janitor of the Engineering Building.

§ XI. COURSES OF LECTURES.

1. CIVIL ENGINEERING AND APPLIED MECHANICS.

Professor:—HENRY T. BOVEY, M.A., M.INST.C.E., F.R.S.C. (Scott Professor of Civil Engineering and Applied Mechanics).

THEORY OF STRUCTURES. (For Laboratory Work, see § XII.)

The lectures on this subject embrace:—

(*a*) The analytical and graphical determination of the stresses in the several members of framed structures, both simple and complex, as, *e.g.*, cranes, roof and bridge trusses, piers, etc.

(*b*) The methods of ascertaining and representing the shearing forces and bending moments to which the members of a structure are subjected.

(*c*) A study of the strength, stiffness and resistance of materials, including a statement of the principles relating to work, inertia, energy and entropy, together with a discussion of the nature and effect of the different kinds of stress, and the resistance offered by a material to deformation and to blows.

(*d*) The design and proper proportioning of beams, pillars, shafts, roofs and bridge trusses, arches, earth-works and retaining walls.

TEXT BOOK.—Bovey's Strength of Materials and Theory of Structures.

HYDRAULICS. (For Laboratory Work, see § XII.)

The lectures deal with this subject both theoretically and with reference to its practical applications.

The Student is instructed in the fundamental laws governing the equilibrium of fluids, and in the laws of flow through orifices, mouthpieces, submerged (partially or wholly) openings, over weirs, through pipes in open channels and rivers. The impulsive action of a free jet of water upon vanes, both straight and curved, is carefully discussed, and is followed by an investigation of the power and efficiency of the several hydraulic motors, as, *e.g.*, Reaction Wheels, Pressure-engines, Vertical Water Wheels, Turbines, Pumps, etc.

TEXT BOOK.—Merriman's Hydraulics.

2. SURVEYING AND GEODESY.

Professor :—C. H. McLeod, Ma.E., M. Can.Soc.C.E.

This course is designed to qualify the Student for admission to the practice of Provincial and Dominion Land Surveying. It also affords a practical and theoretical training in Field Engineering, Practical Astronomy, and in the simpler operations of Geodetic Engineering. The instruction is given by lectures, and by practice in the field, drawing room, laboratory and observatory. The course of lectures is as follows :—

Second Year.—Chain and angular surveying. The construction, adjustment and use of the various instruments. Contour surveying. Underground surveying. Topography. Ranging curves. Levelling and setting out work.

Third Year.—Railway locations. Geodetic levelling. Indirect and Barometric levelling. Hydrographic surveying. Introduction to Practical Astronomy.

Fourth Year.—Geodesy. Practical Astronomy.

Each Student in this course is required to take part in the following :—

1. A chain survey. 2. A contour survey based on 1. 3. Compass surveys with and without local attraction. 4. A plane-table survey. 5. The preliminary surveys and location of a line of road, the work being afterwards set out for construction. 6. The hydrographic survey of a channel in the St. Lawrence River. 7. A triangulation survey from one base, checking on a second base. 8. The precise measurement of two base lines. 9. Differences of level by spirit level triangulation and barometer. 10. Determinations of latitude by the zenith telescope and prime vertical methods. 11. Determination of the meridian. 12. Determinations of time by a portable astronomical transit, by sextant, and by the solar attachment. 13. Determination of longitude by the telegraphic method and by moon culminations. 14. Exercises on the comparison of clocks and chronometers. 15. Practice in the use of field magnetic instruments.

Students engaged in these surveys are expected to keep complete notes, and from them to prepare all plans and sections required. The necessary instruction in topography and mapping is given in the drawing room.

The large drawing rooms are fitted up with suitable mountings for the various instruments, in order to permit of their use and investigation during the winter months. The equipment of surveying and geodetic instruments includes :—

Seven transits and transit-theodolites. Seven levels. Four sextants. Two plane tables. Three surveyor's and three prismatic compasses. Three current-meters. A 300 foot steel tape arranged for basework. An Altazimuth. A Precision Level. A Zenith Telescope. Astronomical Transits. Break-circuit Chronometer. Chronographs. Heliotropes. Hand levels, chains, rods, tapes, barometers, pedometers, and other minor instruments.

The instruction in the Observatory and Geodetic Laboratory (see § XII.) will be given in the Fourth Year.

Examinations for Land Surveyors :—Any graduate in the Faculty of Applied Science in the Department of Civil Engineering and Land Surveying may have his term of apprenticeship shortened to one year for the profession of Land Sur-

veyor in Quebec or Ontario, or for the profession of Dominion Land Surveyor. He must, however, pass the preliminary and final examinations before one of the Boards of Examiners. The former examination should be passed before entering the University, or in the First or Second Year of attendance.

Special provisions will be made for Students who desire to pass the Examination for Dominion Topographical Surveyor.

TEXT BOOKS: Gillespie's Surveying, Johnson's Theory and Practice of Surveying, Shortland's Nautical Surveying, Green's Practical and Spherical Astronomy, Nautical Almanac.

3. DESCRIPTIVE GEOMETRY.

Lecturer:—C. H. MCLEOD, MA.E.

FIRST YEAR.—Geometrical drawing, orthographic projections, including penetrations, developments, sections, etc. Isometric projection.

SECOND YEAR.—Problems on the straight line and plane. Projections of plane and solid figures. Curved surfaces and tangent planes. Intersections of curved surfaces. Axometric projections. Shades and shadows. Mathematical perspective and the perspective of shades and shadows.

THIRD YEAR.—Graphical determination of spherical triangles. Spherical projections. Construction of maps.

4. FREEHAND AND MODEL DRAWING.

Instructor:—ANDREW T. TAYLOR, F.R.I.B.A., R.C.A.

This course is designed to give Students facility in observation and in sketching objects, both from the flat and from the round. Special instruction is given in sketching parts of machinery, structural work, etc.

5. ELECTRICAL ENGINEERING.

Professor:—C. A. CARUS-WILSON, M.A., M.Inst.E.E., A.M.Inst. C.E.
(McDonald Professor of Electrical Engineering).

The theory, construction and calibration of instruments. Ammeters. Voltmeters, Watt meters, and Galvanometers for direct and alternating currents. Instruments for measuring self and mutual induction.

Magnetism. Magnetic circuit. Strength of fields. Coefficients of self and mutual induction. Laws of Induction. Effects of stress and temperature. The construction and design of electro-magnets for special objects. Theory and use of the electro-magnet in the Dynamo.

Electrical mechanism. Regulators. Meters. Arc lamp mechanisms.

Dynamos. Series, shunt and compound wound. Alternate current dynamos. Multiphase dynamos and motors. Characteristics. General design and construction. Methods of winding. Different forms of armatures. Efficiency. Tests of dynamos and motors. Measurement of mechanical power absorbed.

The distribution of electricity. Lighting systems, arc and incandescent. Accumulators. Transformers. Electric traction. Long distance transmission.

6. MECHANICAL ENGINEERING.

Professor :—J. T. Nicolson, B.Sc., M.Can.Soc.C.E. (Workman Professor of Mechanical Engineering).

Kinematics of Machinery.

Definition of a machine. Pairs. Kinematic chains. Triangles of velocity. Slider crank chain and its derivatives. Direct acting engine. Oscillating engine. Quick return motions. Curves of piston position and velocity. Error due to obliquity. Angular velocities. Curves of velocity in slider crank chain. Lever crank chain and its derivatives. Drag Links. Antiparallel mechanism. Loci of points on moving links. Parallel motion. Peaucellier's link work. Double slider crank chain and its derivatives. Swinging cross block. Oldham's coupling. Elliptic chuck. Expansion of elements. Eccentrics. Instantaneous centre. Centrodes. Tension and Pressure Elements. Pulleys. Wheel and Axle. Differential Pulley. Belts. Rolling contact. Toothed gearing.

Dynamics of Machinery.

Dynamics of the steam engine. Curves of crank effort for single, double and triple cranks. Mean crank effort. Fluctuation of energy. Fluctuation of speed. Flywheels. Governors treated graphically; discussing stability, astatism, sluggishness and energy. Acceleration of reciprocating parts and cushioning in engines. Angular acceleration of connecting rods in high speed engines. Oscillating engine. Balancing of double and single acting engines. Dynamics of belt and rope drives, of machine tools, of the locomotive and of the indicator. Examination of indicators and dynamometers.

Friction. Laws based on recent experiments. Journal and pivot frictions. Friction in kinematic chains treated graphically.

Machine Design.

Strength of riveted joints, bolts, nuts, keys, and cotters. Proportions of journals, pivots and shafting, Design of belt, rope and chain gearing. Strength and proportions of engines and boilers. Valve diagrams. Design of machine tools.

7. MINING AND METALLURGY.

Lecturer :—W. A. Carlyle, M.A.E.

The lectures on Mining are given during the Third Year, and among the subjects taken up the following may be mentioned :—Blasting and the nature and use of different Explosives, Quarrying, Hydraulic Mining, Boring; the Sinking Timbering and Tubbing of shafts; Driving and Timbering of Levels, Underground Conveyance and Hoisting, Drainage and Pumping, Lighting and Ventilation of Mines, special methods of Exploitation employed in the working of Metalliferous Deposits or of Coal Seams, etc.

Ore-dressing and Underground Surveying will also receive special attention. As yet there is no special mining laboratory in which practical operations in ore-dressing, etc., can be carried on, but it is hoped that this deficiency will be supplied in the near future.

In the Fourth Year a course of lectures on Metallurgy is given. The general properties of the metals and the nature of fuels, fire-clays, etc., are first discussed, and afterwards the more important metals and the methods of obtaining them from their ores by wet or dry process taken up in detail.

Students of the Fourth Year also devote considerable attention to the designing of mining machinery, furnaces, etc.

8. CHEMISTRY AND ASSAYING.

Professor:—B. J. HARRINGTON, B.A., PH.D. (Greenshields Professor of Chemistry and Mineralogy).

Sessional Lecturer:—NEVIL NORTON EVANS, M.A.Sc.

Assistant:—

This course includes lectures and laboratory work. In the First Year, Students of all the Departments attend a course of lectures on the Laws of Chemical Combination, Chemical Formulæ and Equations, the preparation and properties of the more important Elements and their Compounds, etc. They also devote one afternoon a week during the first term and two afternoons a week during the second term to practical work in the Laboratory, where they learn the construction and use of ordinary apparatus, perform a series of experiments designed to cultivate the powers of observation and deduction, and begin Qualitative Analysis.

In the Second and Third Years, Students in the Department of Practical Chemistry attend lectures on the Chemistry of the Metals or on Organic Chemistry, and receive instruction in Qualitative and Quantitative Analysis, including gravimetric and volumetric methods and the application of electrolytic methods to the estimation of copper, nickel, etc. Blowpipe Analysis and Determinative Mineralogy also constitute part of the work of the Third Year.

In the Fourth Year special attention is devoted to such subjects as Mineral Analysis and Assaying, and the Analysis of Iron and Steel; but considerable latitude is allowed to Students in the choice of subjects, and organic work may, if desired, be taken up.

Students of the Mining Course take Qualitative and Quantitative Analysis during the Second and Third Years, and devote considerable attention in the Fourth Year to Mineral Analysis and Assaying of various ores, fuels, etc. They also attend the class in Blowpipe Analysis and Determinative Mineralogy in the Third Year.

The chemical laboratories (see § XII) are open daily (Saturdays excepted) from 9 a.m. to 5 p.m.

9. THERMODYNAMICS.

Lecturer:—J. T. NICOLSON, B.Sc., M.CAN.SOC.C.E.

Fundamental laws and equations of thermodynamics. Application to perfect gases and to steam saturated and superheated. Efficiency of perfect heat engines. Efficiency of actual air, gas, petroleum, and steam engines.

A study of the steam engine, including wiredrawing, cylinder condensation and jacketing, and the most efficient and most economical point of cut-off. Sizes and proportions of cylinders in single, double and triple expansion engines to develop a given power. Expected indicator diagrams. Sizes and proportions of the principal types of steam generators. Comparison of practical suitability of steam and caloric engines. Theory of engine and boiler testing.

10. GEOLOGY AND MINERALOGY.

Professor :—Sir William Dawson, LL.D., F.R.S. (Logan Professor of Geology).

Professor :—B. J. Harrington, B.A., Ph.D., F.G.S.
Lecturer :—Frank D. Adams, M.A.Sc.

Second Year.—A preliminary Course in Zoology, with special reference to Fossil Animals.

Third Year.—Mineralogy (Ordinary and Honour), Petrography, Physical and Chronological Geology and Palæontology, Geology of Canada, Methods of Geological Exploration.

Fourth Year.—Special studies in Mineralogy and Petrography; Advanced Course in General Geology and Palæontology; Geology of Canada; Practical Geology and Field-work.

For further details see Announcement of the Faculty of Arts.

Note.—Students of the Mining and Chemistry courses take the Honour Mineralogy of the Third Year. Mining Students take the whole (Honour) course of the Fourth Year. Chemistry Students take, in addition to the ordinary course in Geology, the Honour Mineralogy of the Fourth Year.

11. BOTANY.

Professor :—D. P. Penhallow, B.Sc., F.R.S.C.

Course.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology.

12. EXPERIMENTAL PHYSICS.

Professor :—John Cox, M.A. (McDonald Professor of Experimental Physics).

The instruction includes a fully illustrated course of Experimental Lectures on the general principles of Physics (embracing, in the Second Year,—*The Laws of Energy—Heat and Light;* in the Third Year—*Sound—Electricity and Magnetism*), accompanied by courses of practical work in the Laboratory in which the Students will perform for themselves experiments, chiefly quantitative, illustrating the subjects treated in the lectures. Opportunity will be given to acquire experience with all the principal instruments used in exact physical and practical measurements. Students of Electrical Engineering will be expected to continue their work in the Laboratory in the Fourth Year, when they will be prepared to undertake, under the guidance of the Professors, advanced measurements and special investigations bearing on their Technical Studies.

13. MATHEMATICS AND MATHEMATICAL PHYSICS.

Professor :—G. H. CHANDLER, M.A.

The work in this department is conducted from the outset with special reference to the needs of Students of Applied Science. A large amount of time is given to practice in the use of Mathematical Tables, particular attention being paid to the solution of triangles, the tracing of curves, graphical representation of functions, reduction of observations, etc. Areas, volumes, masses, centres of gravity, moments of inertia, etc., are determined both by calculation and by observation or experiment, and each method is made to supplement or illustrate the other. In this connection use will be made, in actual laboratory practice, of a large amount of apparatus, such as balances, Atwood's Machine, inclined planes, chronograph, rotation apparatus of various kinds, etc. The different methods of approximation, the reduction of results of experiments and observations by least squares, etc., will also receive due attention.

All Engineering Students will receive instruction in the following subjects :—

FIRST YEAR.—Euclid, to the end of Book VI., with exercises on Loci, Transversals, etc. Algebra, including the Binomial Thereom. Elements of Solid Geometry and of Geometrical Conic Sections. Plane and Spherical Trigonometry. Elementary Kinematics and Dynamics.

SECOND YEAR.—Analytic Geometry. Differential and Integral Calculus. Dynamics of Solids and Fluids.

THIRD AND FOURTH YEARS.—Continuation of Analytic Geometry, Calculus and Dynamics.

Classes will also be held for advanced (optional) work in these subjects and also in Practical and Spherical Astronomy.

Students in the Course of Practical Chemistry do not take the Analytic Geometry and Calculus.

Text Books (Partial list) : Todhunter's or Mackay's Euclid, Wilson's Solid Geometry and Conic Sections, Wentworth's Analytic Geometry, Chandler's Calculus, Blaikie's Dynamics, Wright's Mechanics, Bottomley's Mathematical Tables, Chambers's Mathematical Tables.

14. ENGLISH LANGUAGE AND LITERATURE.

Professor :—C. E. MOYSE, B.A. (Molson Professor of English Language and Literature).

Lecturer :—PAUL T. LAFLEUR, M.A.

FIRST YEAR.—English Language and Literature.

SECOND YEAR.—A special course on English Composition.

THIRD YEAR.—A special course on English Composition.

15. FRENCH AND GERMAN.

French Language and Literature.

Professor :—P. J. DAREY, M.A., B.C.L., LL.D., Officier d'Académie.

First Year.—Darey—Principes de Grammaire Française. Lafontaine—Choix de fables. Molière—l'Avare. Dictation. Colloquial exercises.

Second Year.—Racine.—Esther. Ponsard—l'Honneur et l'Argent. Contanseau—Précis de Littérature Française, depuis son origine jusqu'à la fin du XVIIIe siècle. Translation into French :—Dr. Johnson.—Rasselas. Dictation. Parsing. Colloquial exercises.

German Language and Literature.

Lecturer :—

First Year.—Vandersmissen's and Fraser's German Grammar. Adler's Progressive German Reader (selections from Sections 1 and 2). Translations, oral and written. Dictation. Colloquial exercises.

Second Year.—Vandermissen's and Fraser's German Grammar. Adler's Progressive German Reader (selections from Sections 3-5). Immermann ; Der Oberhof. Parsing. Dictation. Colloquial exercises. Translations, oral and written.

Third Year.—Vandersmissen's and Fraser's German Grammar. Lessing, Minna von Barnhelm ; Schiller, Siege of Antwerp. History of German Literature from the earliest periods to the close of the 18th century (a brief survey). German Composition. Dictation.

17. METEOROLOGY.

Instruction in Meteorological Observations will be given in the Observatory at hours to suit the convenience of the Senior Students.

Certificates will be granted to those Students who pass a satisfactory examination on the construction and use of Meteorological Instruments and on the general facts of Meteorology.

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§ XII. LABORATORIES.

In the Laboratories the Student will be instructed in the art of conducting experiments, a sound knowledge of which is daily becoming of increasing importance in professional work.

1. LABORATORY OF MATHEMATICS AND DYNAMICS.—The Laboratory connected with the mathematical class-room is fully equipped with instruments for the measurement of distance (scales,

micrometers), of area (planimeters), of volume (flasks, graduated vessels, etc.), of time (clocks, chronographs), of mass (beam and spring balances); it is also provided with specific gravity balances, Atwood and Morin machines for experiments on the Laws of Motion, inclined planes, a variety of rotation apparatus (gyroscope, Maxwell's Dynamical Top, torsion balance, pendulums, etc.), air pumps, thermometers, barometers, etc.

2. CHEMICAL LABORATORIES.—The Chemical Laboratories are three in number,—one for Students of the First Year, one for Students of the Second and Third Years, in which it has been found necessary to carry on both qualitative and quantitative work, and one which is reserved for Students of the Fourth Year and for special Students who may wish to carry on original investigations. The fittings of this last room were the gift of Mr. W. C. McDonald. There is also a special room in the basement which is fitted up for fire assaying.

The Laboratories are supplied with four balances by Becker & Sons, one Bunge and a bullion-balance by Trœmner. There are also a Laurent polariscope, a spectroscope by Dubosque, gas combustion and melting furnaces, apparatus for electrolytic work, etc., etc. Distilled water is obtained by means of a special boiler placed in the basement, which also supplies the steam for drying ovens, steam baths and drying chamber in the upper Laboratories.

3. PHYSICAL LABORATORY.—The McDonald Physical Laboratory is nearly completed, and will be ready for occupation in October, 1892. It contains five storeys, each of 8000 square feet area. Besides a Lecture Theatre and its apparatus rooms, the Building includes an Elementary Laboratory nearly 60 feet square; large special laboratories arranged for higher work by advanced Students in Heat and Electricity, a range of rooms for optical work and photography; separate rooms for private thesis-work by Students; and two large laboratories arranged for research, provided with solid piers and the usual standard instruments. There are also a lecture room, with apparatus room attached, for Mathematical Physics, a special Physical Library, and convenient workshops. The equipment is on a corresponding scale, and comprises: (1) apparatus for illustrating Lectures; (2) simple forms of the principal instruments for use by the Students in practical work; (3) the

most recent types of all the important instruments for exact measurement, by first class makers, for use in the laboratories for special work and research.

4. Testing Laboratories.—The principal experiments carried out in these will relate to the elasticity and strength of materials, friction, the theory of structures, the accuracy of springs, gauges, dynamometers, etc., the efficiency of shafting, gearing, etc. The equipment will include a 100-ton Wicksteed and a 75-ton Emery machine for testing the tensile, compressive and transverse strength of materials. For the former, an addition has been specially designed, by means of which the transverse strength of timbers up to 25 feet in length can be determined. The Emery machine is constructed and graduated with such accuracy as to render possible delicate experiments on elasticity. The Laboratories are also provided with an autographic torsion machine for testing the torsional strength of materials, machines for determining the effect of repeated stresses, oil testers, strain extensometers, etc., and a very complete supply of gauges, micrometers, and other apparatus for exact measurements.

The importance of tests of the strength of mortars and cements is very great, and the equipment of the Laboratory for the purpose is on a complete plan, including two one-ton dead weight testers, a one ton spring tester (Faija), steaming apparatus, special weighing hopper, spring balances, gun metal moulds, etc. The Laboratory is also fitted with cisterns in which the briquettes may be submerged for any required time.

5. Thermodynamic Laboratory.—The Thermodynamic Laboratory is furnished with an experimental steam engine of 80 I.H.P., specially designed for the investigation of the behaviour of steam under all possible conditions; there are four cylinders, which can be connected so as to allow of single, compound, triple or quadruple expansion, condensing or non-condensing, with or without jackets. The measurements of heat are made by large tanks, which receive the condensing water and the condensed steam. There are two hydraulic absorption brakes for measuring the mechanical power developed, and an alternative friction brake for the same purpose. The Laboratory is further equipped with a variety of apparatus for the investigation and illustration of the general principles of ther-

modynamics, including hot air and other engines, indicators, pyrometers, pressure gauges, etc.

6. Electrical Laboratory.—The equipment of the Electrical Engineering Laboratory includes a high speed steam engine coupled direct to a dynamo for incandescent lighting, and a slow speed steam engine for driving the experimental dynamos. These latter have been chosen to represent the best types now in general use, both of high tension and low tension direct current dynamos, and of alternating current dynamos of high tension for use with transformers; there is also a motor generator and a multiphase generator and motor.

Arrangements have been made for measuring the mechanical power supplied to the dynamos and given out by the electromotors, of which there are several types; these arrangements comprise various forms of belt, rope and transmission dynamometers, with a very perfect form of hydraulic absorption dynamometer, with which the accuracy of the others can be checked by readings in absolute measure; special facilities are provided for varying the speed of the dynamos within any required limits.

The instruments for making the electrical measurements have been selected with care; these instruments will enable measurements of current strength, resistance, and difference of potential to be made with accuracy, not only in the detached laboratories but in the dynamo room when the machinery is running; in separate rooms there are standard instruments of precision with which the correctness of the working instruments can be readily checked. These include, amongst others, two of Lord Kelvin's electric balances. There are also a variety of instruments for special purposes connected with electrical measurements, such as instruments for determining coefficients of self and mutual induction, etc.

7. Geodetic Laboratory.—There is in this Laboratory a Rogers comparator for the investigation of standards of length, a Rogers angular dividing engine for the graduation and investigation of circles, a Munro-Rogers linear dividing engine, a standard balance, an astronomical clock, and a portable Bessels reversible pendulum apparatus. In connection with the Laboratory there are also standards of length up to one hundred feet, for standardizing chains, tapes, rods, etc.

8. HYDRAULIC LABORATORY.—Here the Student will study practically the flow of water through orifices of various forms and sizes, submerged openings, over weirs, through pipes, mouth-pieces, etc. For this purpose there are suitably designed tanks, the largest having a height of 30 feet and a section of 25 square feet, pressure gauges of different kinds, and other apparatus. The Students will also themselves carry out tests upon hydraulic motors, *e.g.*, upon the different classes of turbines, pumps, the Pelton and other wheels, etc. The facilities for conducting such experiments are unusually great, as from the city water supply there is an available head of over 200 feet.

A three-throw experimental pump with a capacity of 1000 gallons per minute, is also being designed for this laboratory, for the purpose of investigating the characteristics of the different forms and sizes of valves, the effects of variations of speed and stroke, etc.

9. MECHANICAL LABORATORY.—In this Laboratory experiments will be carried out on the efficiency of belts, shafting, and machine tools. Governors of all types will be tested with the chronograph. Lubricants by journal friction testing machine. Sliding and rolling friction and the stiffness of ropes will also form subjects for experiment.

§ XIII. MUSEUMS.

The Peter Redpath Museum contains large and valuable collections in Botany, Zoology, Mineralogy and Geology, arranged in such a manner as to facilitate the work in these departments. Students have access to this Museum, in connection with their attendance on the classes in Arts in the subjects above named, and also by tickets which can be obtained on application. Students will also have the use of a Technical Museum, occupying the whole of the third story of the McDonald Building. Amongst other apparatus the Museum will contain the Reuleaux collection of kinematic models, presented by W. C. McDonald, Esq., and pronounced by Professor Reuleaux to be the finest and most complete collection in America.

§ XIV. WORKSHOPS.

The workshops erected on the Thomas Workman Endowment have a floor area of more than 25,000 sq. ft.

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The practical instruction in the workshops is solely designed to give the Student some knowledge of the nature of the materials of construction, to familiarize him with the more important hand and machine tools, and to give him some manual skill in the use of the same. For this purpose, the Student, during a specified number of hours per week, will work in the shops under the direct superintendence of the Professor of Mechanical Engineering, aided by skilled mechanics. The courses commence with graded exercises and gradually lead up to the making of joints, members of structures, frames, etc., finally concluding in the iron-working department with the manufacture of tools, parts of machines, and, if possible, with the building of complete machines.

The equipment includes the following :—

In the Carpenter, Wood-Turning and Pattern Making Departments.—Carpenters' and pattern makers' benches, wood-lathes, a large pattern-maker's lathe, circular-saw benches, jig and band saws, buzz-planer, wood-borer, universal wood-worker, etc.

In the Machine Shop.—The most improved engine lathes, a 36-in. modern upright drill, with compound table, universal milling machine, with vertical milling attachment, hand lathes, planer, universal grinding machine, universal cutter and reamer grinder, a 16-in. patent shaper, vise-benches, etc.

In the Smith Shop.—Forges, vises, hand-drill, and a power hammer.

In the Foundry.—A cupola for melting iron, brass furnace, moulders' benches, etc.

The machinery in the shops is driven by a 50 I. H. P. compound engine and a 10 I. H. P. high speed engine.

FACULTY OF APPLIED SCIENCE—TIME TABLE.

Years	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
First Year.	9	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Shopwork.
	10	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Do
	11	English.	French. Drawing.	French.	French.	English.	Do
	12	Chemistry.	German. Drawing.	English.	German.	Chemistry.	Do
	2 to 5	Geom. Drawing.	Geom. Drawing (*a*). Pract. Chemistry (*b*).	Shopwork.	Freehand Drawing.	Pract. Chemistry.	
Second Year.	9	Mathematics.	Mathematics.	French.	Mathematics.	French.	Shopwork, 4.
	10	Physical Laboratory.	German.	Mathematics.	Mechanism, 2, 3. Surveying, 1, 4. Chemistry, 5.	German.	Do
	11	Do	Zoology, 1, 4.	Mathematics. Botany, 5.	Zoology, 1, 4.	Mathematics.	Do
	12	Do Botany, 5.	Experimental Physics.	Mechanism, 2, 3. Surveying, 1, 4.	Experimental Physics.	English.	Do
	2 to 5	Mapping, 1. *Chemistry, 4, 5. Shopwork, 2, 3.	Surveying (1 hr.), 1, 4. Desc. Geom., 1, 2, 3, 4, 5.	Shopwork, 1. * Chemistry, 4, 5. Mechl. Drawing, 2, 3.	Shopwork, 2, 3. Mapping, 1, 4. * Chemistry, 5.	Physical Laboratory, 1, 2, 3, 5.	

* The Chemical Laboratories are open to Second, Third and Fourth Year classes daily (Saturdays excepted) from 9 a.m. to 5 p.m.

Field work during September and October, 2 to 5 p.m. For 2nd Year *Civil*, on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays. For *Mining*, on Mondays, Tuesdays, Thursdays and Fridays. For 3rd Year *Civil* and *Mining*, on Mondays, Wednesdays, Thursdays and Fridays. For 4th year *Civil*, on Saturday mornings and two first clear evenings each week, 7 to 9.

(*a*) First Term. (*b*) Second Term.

1. Civil Engineering Students. 2. Electrical Engineering Students. 3. Mechanical Engineering Students. 4. Mining Engineering Students. 5. Practical Chemistry Students.

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FACULTY OF APPLIED SCIENCE—TIME TABLE—*Continued.*

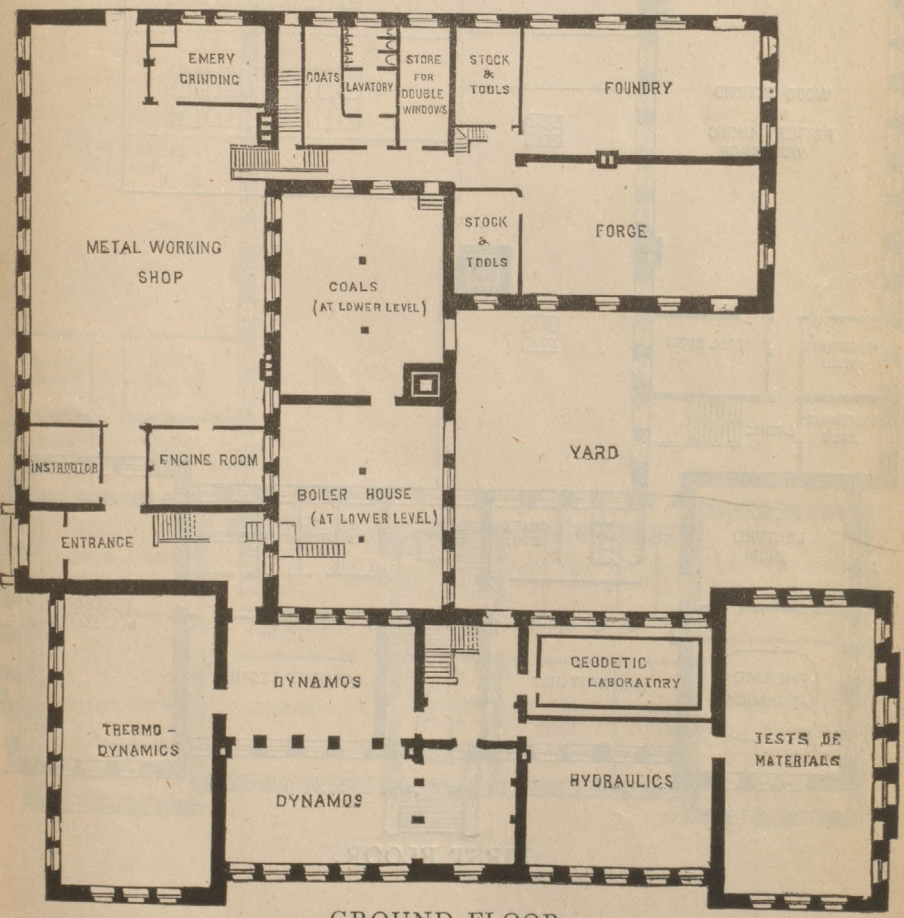
Years	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
THIRD YEAR.	9	Experimental Physics.	Physical Lab., 2. Mineralogy, 4, 5. (*b*)	Geology, 1, 4, 5. Shopwork, 2, 3.	Experimental Physics.	Desc. Geom., 1. Mineralogy, 4, 5.	Testing Lab., 1, 2 (*a*), 3. Electrical Lab., 2 (*b*).
	10	Geology, 1, 4, 5. Dyn. of Mach., 2, 3.	Surveying, 1, 4. Physical Lab., 2.	Desc. Geom., 1. Shopwork, 2, 3. Mining, 4.	Mechanism, 1, 4. Chemistry, 5.	Geology, 1, 4, 5. Dyn. of Mach., 2, 3.	Do
	11	Mathematics.	Ap. Mech., 1, 2 (*a*), 3, 4. Physical Lab., 2 (*b*). Zoology, 5.	Surveying, 1,4. Shopwork, 2, 3.	Mathematics. Zoology, 5.	Ap. Mech., 1, 2 (*a*), 3, 4. Phys. Lab., 2 (*b*).	Do
	12	Surveying, 1, 4.	Ap. Mech., 1, 2 (*a*), 3, 4. Phys. Lab., 2 (*b*).	Shopwork, 2, 3. Mechanism, 1, 4.	Mathematics.	Ap. Mech., 1. Physical Lab., 2. Mining, 4.	
	2 to 5	Mapping, 1. Shopwork, 2, 3. Chemistry, 4, 5.	Mining, 4. Drawing, 1, 2, 3, 4. Chemistry, 5.	Physical Lab., 1, 2, 3, 5. Chemistry, 4, 5.	Mapping, 1. Drawing, 2, 3. Detr. Mineralogy, 4, 5.	Testing Lab., 1. Physical Lab., 2, 4. Thermo. Lab., 3. Chemistry, 5.	
FOURTH YEAR.	9	Geodesy, 1. Dyn. of Mach., 2, 3.	Electrical Lab., 2. Mechanical Lab., 3.	Hydraulic Lab., 1, 3, 4 (*a*) Electrical Lab., 2. Geology, 5.	Thermodynamics.	Physical Lab., 2. Thermo. Lab., 3.	Geodetic Lab., 1. Shopwork, 2, 3.
	10	Hydraulics, 1, 3, 4. Electrical Eng'ng., 2.	Do Metallurgy. 4.	Hydraulic Lab., 1, 3, 4 (*a*). Electrical Lab., 2.	Hydraulics, 1, 3, 4. Electrical Eng'ng., 2. Metallurgy, 4	Geodesy, 1. Physical Lab., 2. Thermo. Lab., 3.	Do
	11	Mathematics, 1, 2, 3. Geology, 4.	Ap. Mech., 1. Electrical Lab., 2. Mechanical Lab., 3.	Do	Mathematics.	Ap. Mech., 1. Physical Lab., 2. Thermo. Lab., 3. Geology, 4.	Do
	12	Machine Design, 2, 3.	Do	Electrical Lab., 2. Mineralogy, 4, 5.	Do	Ap. Mech., 1, Physical Lab., 2. Thermo. Lab., 3.	Do
	2 to	Shopwork, 1. Designing, 2, 3. Assaying, 4. Chemistry, 5.	Designing, 1, 4. Electrical Lab., 2. Mechanical Lab., 3. Chemistry, 5.	Designing, 1, 3. Electrical Lab., 2. Assaying, 4. Chemistry, 5.	Testing Lab., 1. Physical Lab., 2. Designing, 3. Assaying, 4. Chemistry, 5.	Physical Lab., 2. Thermo. Lab., 1, 3. Chemistry, 5.	

(*a*) First Term. (*b*) Second Term.

1. Civil Engineering Students. 2. Electrical Engineering Students. 3. Mechanical Engineering Students. 4. Mining Engineering Students. 5. Practical Chemistry Students.

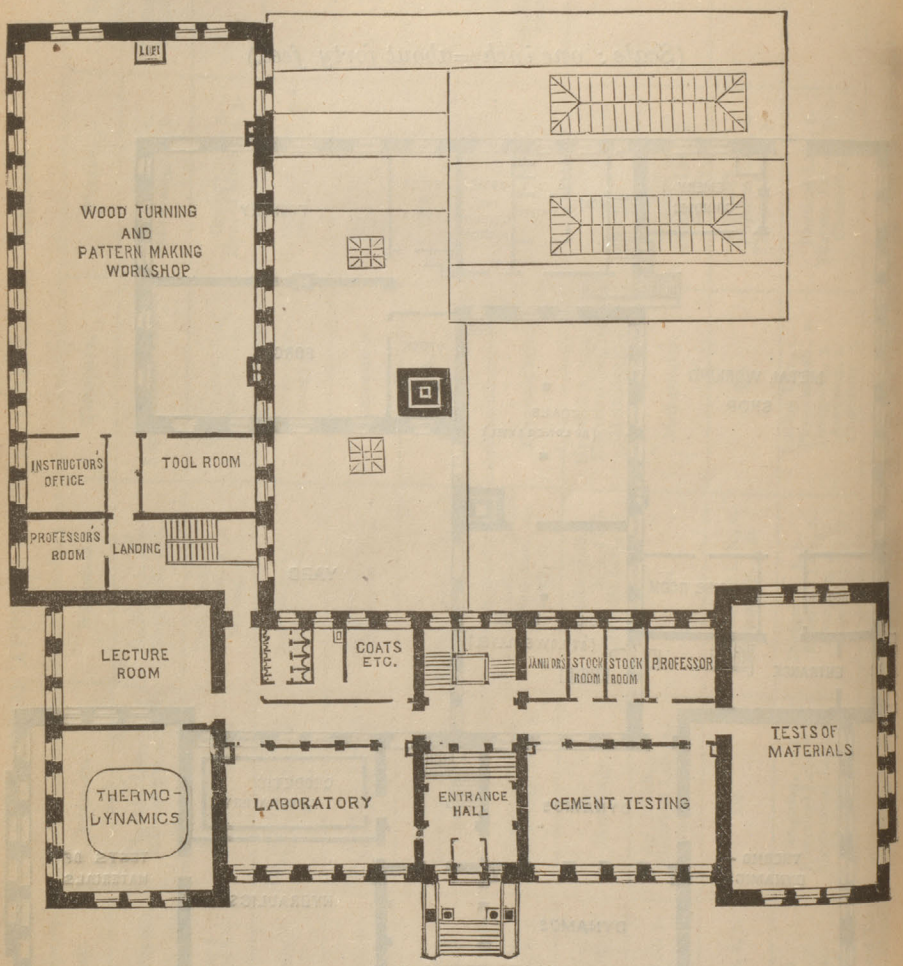
PLANS OF THE APPLIED SCIENCE BUILDINGS.

(Scale : one inch=about forty feet.)

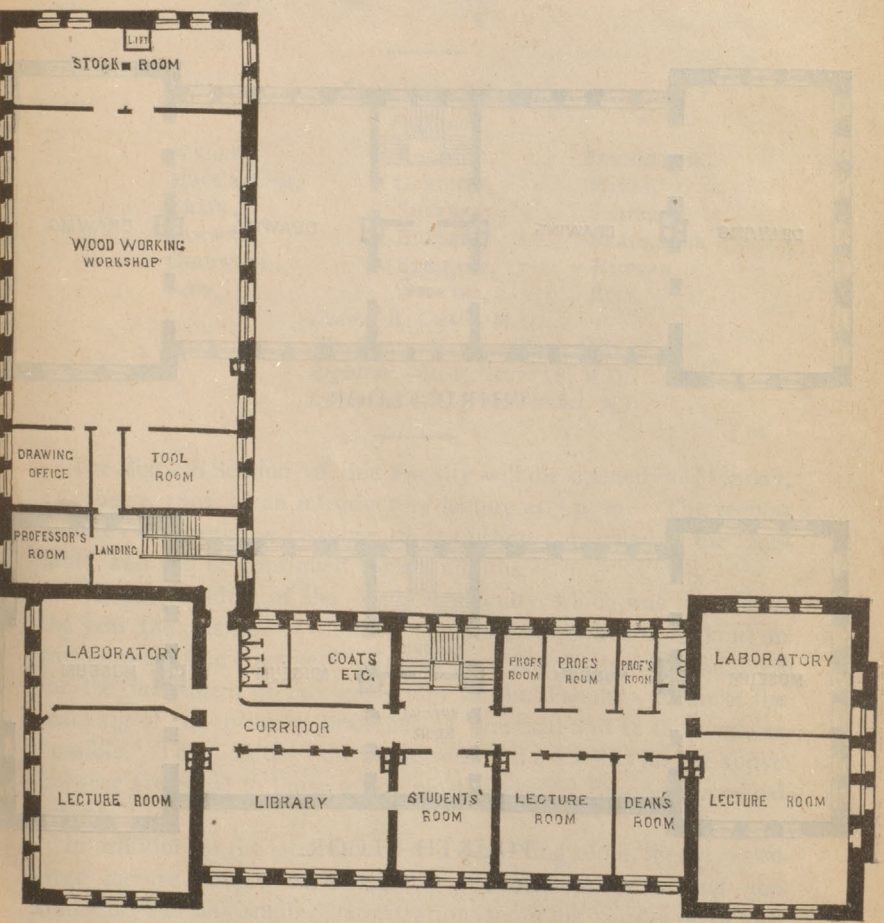


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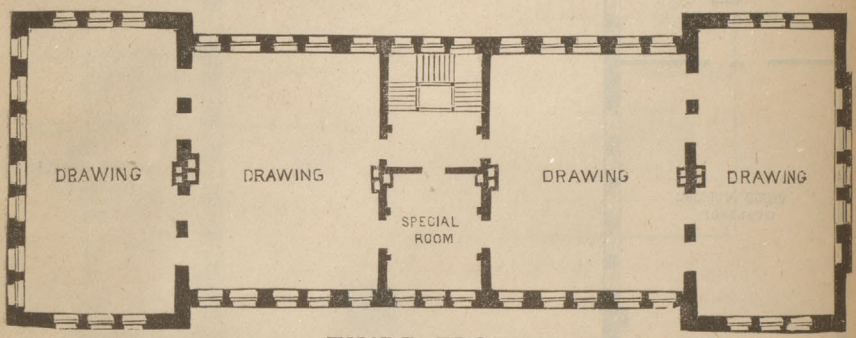

LIFT
WOOD TURNING AND PATTERN MAKING WORKSHOP
INSTRUCTORS OFFICE
TOOL ROOM
PROFESSORS ROOM
LANDING
LECTURE ROOM
COATS ETC.
JANI TORS
STOCK ROOM
STOCK ROOM
PROFESSOR
TESTS OF MATERIALS
THERMO-DYNAMICS
LABORATORY
ENTRANCE HALL
CEMENT TESTING

FIRST FLOOR.

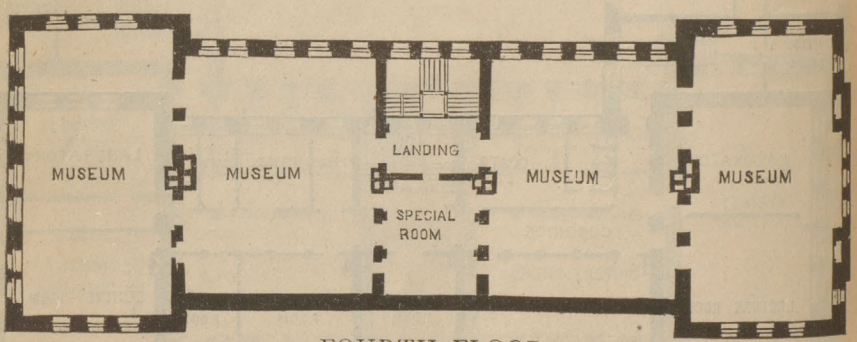


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Faculty of Medicine.

THE PRINCIPAL (*ex-officio*).

Professors:

WRIGHT,	RODDICK,	PENHALLOW,
MACCALLUM,	GARDNER,	MILLS,
CRAIK,	SHEPHERD,	CAMERON,
FENWICK,	BULLER,	BLACKADER
GIRDWOOD,	STEWART,	RUTTAN,
ROSS,	WILKINS,	BELL.

Dean.—R. CRAIK, M.D.

Vice-Dean.—GEORGE ROSS, M.D.

Registrar.—R. F. RUTTAN, M.D.

Librarian.—F. J. SHEPHERD, M.D.

The Sixtieth Session of this Faculty will be opened on Monday, October 3, 1892, by an introductory lecture at 3 p. m. The regular lectures will begin on October 4th at the hours specified in the time-table, and will be continued for six months.

The new building of the Medical Faculty, which was opened in the year 1885, is one of the most complete structures of its kind on this continent or elsewhere. It has been found admirably adapted for the fulfillment of the great aim of the Faculty—to make the teaching of the primary branches as practical and as thorough as possible. The facilities now possessed by the Faculty for the above purpose are equal to those of the most advanced European medical schools.

In addition to the laboratories and dissecting room, there are two large lecture rooms, each capable of comfortably seating 300 students, and one small demonstration room for classes of 50 and under. The space allotted to the library and museum has been largely increased.

The Dissecting Room, which is situated on the second floor, is 76 feet in length and 31 feet in breadth. It is furnished with twenty

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tables, and is well lighted for work during the day and night. In procuring appliances for the comfort and convenience of the Students no reasonable expense has been spared.

The Physiological Laboratory, which is situated on the ground floor, is supplied with the most modern apparatus for the practical teaching of this most important branch of the medical curriculum. It contains amongst other valuable instruments,—kymographs, various manometers, etc., for demonstrating blood pressure; myographs, rheocords, moist chambers, etc., and various electrical appliances for demonstrating experiments in connection with nerve and muscle; special apparatus for illustrating various points in respiration; apparatus specially suitable for demonstrating the processes of digestion, as well as the chemical composition and nature of the secretions and the chief constituents of the tissues and nutritive fluids. The Laboratory is arranged in such a way as to permit of Students assisting at and taking part in these demonstrations. During the past session important additions have been made to the Physiological Laboratory.

The Histological Laboratory is a large, well-lighted room on the second floor. It is so arranged that over eighty students can be present at the microscopical demonstrations. From the large number of microscopes employed, Students will have special facilities in studying and making themselves thoroughly acquainted with the specimens that are the subjects of demonstration.

The Pharmacological Laboratory is a large room situated on the ground floor, and is now furnished with the necessary appliances for the practical teaching of pharmacy.

The Chemical Laboratory is large, lofty, and well lighted, and can accommodate comfortably 76 men at one time. Each Student, when entering on this course, has a numbered table in the laboratory assigned to him for his use during the session. Each table has its own gas and water fixtures, and is provided with shelves for its corresponding set of reagent-bottles, as well as a drawer and locker containing a modern set of chemical apparatus specially adapted for the work. This apparatus is provided by the College, and supplied to each Student without extra charge. The Student is required to pay only for apparatus broken or destroyed.

In the Pathological Laboratory accommodation will be provided

for Students or practitioners who desire to carry on private pathological research.

The recent additions made to the Laboratory include a suite of rooms exclusively devoted to the study and culture of Bacteria, furnished with a complete outfit of the best modern apparatus for this purpose.

The class tickets for the various courses are accepted as qualifying candidates for examination before the various Colleges and Licensing bodies of Great Britain and Ireland, and the College of Physicians and Surgeons of Ontario. The degree in Medicine of this University carries with it at the Licensing Boards of Great Britain the same exemption in certain subjects as are granted to all colonial degrees.

To meet the circumstances of the General Practitioners in British North America, where there is no division of the profession into Physicians and Surgeons exclusively, the degree awarded upon graduation is that of "Doctor of Medicine and Master of Surgery," in accordance with the general nature and character of the curriculum, as fully specified hereafter. The degree is received by the College of Physicians and Surgeons of the Province of Quebec.

§ I. MATRICULATION.

Intending Students who purpose practising Medicine in Canada, are requested to observe that by the Regulations in force in the various Provinces of the Dominion they are required to pass the Matriculation accepted by the several Registering Boards of these provinces before beginning their course of study.

Students holding the degree of Bachelor of Arts are exempted from examination for matriculation, but must present their diplomas and be registered before beginning their studies.

The Preliminary Examination in General Education of the following Bodies is accepted by this University in lieu of its own Matriculation Examination :—

1. The College of Physicians and Surgeons, Ontario.
2. The College of Physicians and Surgeons, Quebec.
3. The New Brunswick Medical Board.
4. The Nova Scotia Medical Board.
5. The Manitoba Medical College.

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6. Students who have passed the matriculation examination of recognized Universities.

Students not having any of the above qualifications for entrance are required to pass one or other of the following examinations :—

1. The June Matriculations in Arts of this University, commencing June 1, 1892.

Papers for the June examination can be sent to local centres on application to the Secretary of the University. The September examinations are held in Montreal only.

The subjects for examination are Classics, Mathematics and English.

Greek.—Xenophon, Anabasis, Book I.; Greek Grammar.

Latin.—Cæsar, Bell. Gall., Book I.; and Virgil, Æneid, Book I., lines 1-300; Latin Grammar.

Mathematics.—Arithmetic, including the Metric System; Algebra, to Simple Equations (inclusive), Euclid's Elements, Books I., II., III. (In June, 1893, to Quadratics inclusive.)

English.—Writing from Dictation. A paper on English Grammar, *including* Analysis. A paper on the leading events of English History. Essay on a subject to be given at the time of the examination.

2. The September Examinations in Arts of the University, held in McGill College only, on Sept. 15th, 1892, and following days, and including the same subjects above stated, except that alternative books in the classical subjects will be accepted.

3. The special Examination for entrance into the Faculty of Medicine, which is the same as that required by the Medical Council of Great Britain.

This Examination will be held on the last Friday and Saturday in March, and the third Friday and Saturday in September of each year. Application may be made to Dr. Howe, the examiner, till the evening of the previous day. The requirements of the standard for Matriculation are :—(1) English Language, including Grammar and Composition. (2) English History. (3) Modern Geography. (4) Latin, including Translation from the original, and Grammar. (5) Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including simple Equations; (*c*) Geometry, including the first three books of Euclid or the subjects thereof. (6) Elementary Mechanics of Solids and Fluids, comprising the elements of Statics, Dynamics and Hydrostatics. (7) One of the following optional subjects :—(*a*) Greek, (*b*) French, (*c*) German, (*d*) Italian, (*e*) Logic, (*f*) Botany, (*g*) Elementary Chemistry.

TEXT-BOOKS.—Latin, Cicero, in Catilinam I.; or Virgil, Æneid, Bk. I.; or Caesar, Bell. Brit.

GREEK.—Xenophon, Anabasis, Bk. I., or Homer's Iliad, Bk. IV.
FRENCH.—Voltaire's Charles XII., I and II Books.
NATURAL PHILOSOPHY.—Ganot's Physics, Books I, II and III.
BOTANY.—Gray's "How Plants Grow."
ELEMENTARY CHEMISTRY.—Storer and Elliot's Manual.

§ II.—ENREGISTRATION.

The following are the University Regulations :—

All Students desirous of attending the Medical Lectures shall, at the commencement of each Session, enroll their names and residences in the Register of the Medical Faculty.

The said Register shall be closed on the last day of October in each year. Fees are payable to the Registrar, and must be paid in advance at the time of enregistration.

§ III.—COURSES OF LECTURES.

ANATOMY.

PROFESSOR, FRANCIS J. SHEPHERD.

Anatomy is taught in the most practical manner possible, and its relation to Medicine and Surgery fully considered. The lectures are illustrated by the fresh subject, moist and dry preparations, sections, models and plates, and drawings on the blackboard.

Special attention is devoted to Practical Anatomy, the teaching being similar to that of the best European schools. The Dissecting Room is open from 8 a.m. to 10 p.m., the work being conducted under the constant supervision of the Professor and his staff of Demonstrators. Special Demonstrations on the Brain, Thorax, Abdomen, Bones, etc., are frequently given. Every Student must be examined *at least* three times on each part dissected, and if the examinations are satisfactory, a certificate is given. Prizes are awarded at the end of the Session for the best examination on the fresh subject. Abundance of material provided.

CHEMISTRY.

PROFESSOR, GILBERT P. GIRDWOOD.

ASSISTANT PROFESSOR, R. F. RUTTAN.

Inorganic Chemistry is fully treated; a large portion of the course is devoted to Organic Chemistry and its relations to Physiology. The branches of Physics bearing upon or connected with Chemistry also engage the attention of the Class. For experimental illustration abundant apparatus is possessed by the College.

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The Chemical Laboratory will be open to the members of the class, to repeat experiments performed during the course, under the superintendence of the Professor or Lecturer.

PRACTICAL CHEMISTRY.

PROFESSOR, GILBERT P. GIRDWOOD.

ASSISTANT PROFESSOR, R. F. RUTTAN.

The course in Practical Chemistry includes two hours' laboratory work three times a week for three months. The Students are instructed individually in chemical manipulations, blow-pipe analysis, and qualitative determination of the salts, acids, etc., they will require to use in practice. They are required before finishing their course to be familiar with the principles of practical Forensic and Sanitary Chemistry. Special attention is directed to instructing the Student in making accurate notes of his experiments and his conclusions. These notes are examined daily, and criticized.

PHYSIOLOGY.

PROFESSOR, T. WESLEY MILLS.

The purpose of this Course is to make Students thoroughly acquainted, as far as time permits, with modern Physiology: its methods, its deductions, and the basis on which the latter rest. Accordingly a full course of lectures is given, in which both the Experimental and Chemical departments of the subject receive attention.

In addition to the use of diagrams, plates, models, etc., every department of the subject is experimentally illustrated. The experiments are free from elaborate *technique*, and many of them are of a kind susceptible of ready imitation by the student.

Laboratory work for Senior Students :—

(1) During the first part of the Session there will be a course on Physiological Chemistry, in which the Student will, under direction, investigate food stuffs, digestive action, blood, and the more important secretions and excretions, including urine. All the apparatus and material for this course will be provided.

(2) The remainder of the Session will be devoted to the performance of such experiments as are unsuitable for demonstration to a large class in the lecture room and such as require the use of elaborate methods, apparatus, etc. There will be no extra fee for this part of the course.

HISTOLOGY.

PROFESSOR, GEO. WILKINS.

This will consist of a course of ten lectures and twenty-five weekly demonstrations with the Microscope. As the demonstrations will be chiefly relied upon for teaching the Microscopic Anatomy of the various structures, the specimens under observation will then be minutely described. Plates and diagrams specially prepared for these lectures will be freely made use of.

PHARMACOLOGY AND THERAPEUTICS.

PROFESSOR, A. D. BLACKADER.

The course on this subject comprises :—

I. A description of the Pharmacology and Therapeutics of the more importan medicinal agents.

II. The delivery of a weekly lecture ("Clinical Therapeutics") in the theatre of the General Hospital, on some case or groups of cases well adapted for illustrating important points in both general and special Therapeutics. The material for these lectures is abundant, being obtained from both the wards and the outdoor clinics.

III. The attendance during the summer session of a course on Practical Material Medica.

MEDICINE.

PROFESSOR, GEORGE ROSS.

While the lectures on this subject are mainly devoted to Special Pathology and Therapeutics, no opportunity is lost of illustrating and explaining the *general laws* of disease. With the exception of certain affections seldom or never observed in this country, all the important internal diseases of the body, except those peculiar to Women and Children, are discussed, and their Pathological Anatomy illustrated by the large collection of morbid preparations in the University Museum, and by fresh specimens contributed by the Demonstrator of Morbid Anatomy.

The College possesses an extensive series of Anatomical plates, illustrative of the Histological and Anatomical appearances of disease, and the wards of the General Hospital afford the lecturer ample opportunities to refer to living examples of very many of the maladies he describes, and to give the results of treatment.

CLINICAL MEDICINE.

PROFESSOR, JAMES STEWART.

Attendance is given in the Medical Wards of the Montreal General Hospital on three days of every week with 3rd year Students, and three days with those of the 4th year. Accurate reports of all cases are kept by duly appointed Clinical clerks and are systematically read before the class. Instruction is given bedside, and every pupil is required to take part in the physical examinati patients. The mode of conducting investigations, the use of the microscope, value of the thermometer and ophthalmoscope, etc., in medical diagnosis, are explained and illustrated. Senior Students are called upon in rotation

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examine new cases before the class, and to be examined thereon as to their general knowledge. In addition, one weekly Clinical Lecture is delivered, bearing upon some case or cases of importance which may happen to be under observation at the time. Special attention is directed to Medical Anatomy, and candidates for the degree will be examined thereon.

SURGERY.

PROFESSOR, THOMAS G. RODDICK.

The first part of this course consists of Surgical Pathology, illustrated by a large collection of preparations from the College Museum, also specimens as they are obtained from cases under observation at the Hospital, and contributed to that collection by the Hospital pathologist, and from private sources. The second part of the course is devoted to the practice of Surgery, in which attention is drawn to cases which have been observed by the class during the previous summer session. The various surgical appliances are exhibited, and their uses and application explained. Surgical Anatomy and Operative Surgery form a special department of this course, and Quain's and Maclise's plates are used in illustration.

CLINICAL SURGERY.

PROFESSOR RODDICK.

ASSOCIATE PROFESSOR, JAMES BELL.

This course is eminently practical, consisting of bedside instruction and lectures delivered weekly, illustrative of surgical cases actually present in the wards of the General Hospital. The class is separated into junior and senior divisions, which are taken charge of by the Professor on alternate days, when the reports of the Clinical clerks are read and criticized, and fresh cases are examined by the Senior Students. The surgical dressings are, as much as possible, reserved for these occasions, so as to give all present an opportunity of participating in the application of splints to fractures, dressing of wounds, minor operations, etc. Major operations are performed in the theatre attached to the Hospital, which is so constructed that the most distant can obtain a fair view of the operations. All the recently invented appliances for the treatment of surgical disease have been introduced into the Hospital.

MIDWIFERY.

PROFESSOR, J. C. CAMERON.

The [illegible] will embrace: 1. Lectures on the principles and practice of the obste[illegible], illustrated by diagrams, fresh and preserved specimens, the artificial pelvis[illegible]plete set of models, illustrating deformities of the pelvis, wax prepara-[illegible] bronze mechanical pelvis, etc. 2. Bedside instruction in the Montreal obs[illegible]rnity, including the management and after-treatment of cases. 3. A compre[illegible]

plete course on obstetric operations with the phantom and preserved fœtuses. 4. The Diseases of Infancy. 5. A course of individual clinical instruction at the Montreal Maternity.

Particular attention is given to clinical instruction, and a clinical examination in Midwifery, similar to that held in Medicine and Surgery, now forms part of the final examination.

GYNÆCOLOGY.

PROFESSOR, WM. GARDNER.

The course on this subject will comprise two lectures a week throughout the session. The anatomy and physiology of the parts concerned will be first discussed. Then the various methods of examination will be fully described, the necessary instruments exhibited, and their uses explained. After this, the diseases peculiar to the sex will be considered as fully as time will permit, in the following order :—Disorders of Menstruation ; Leucorrhœa, its causes and treatment; Pelvic Cellulitis and Peritonitis; Lacerations of the Cervix Uteri and Perineum; Urinary and Fæcal Fistulæ ; Inflammations of the Uterus ; Displacements of the Uterus; Tumors of the Uterus ; Diseases of the Ovaries.

The lectures will be illustrated as fully as possible by drawings and morbid specimens. The Gynæcological Clinic of the General Hospital furnishes the Professor with ample material to illustrate the subjects considered in the didactic lectures.

Particular attention is given to clinical instruction, and a clinical examination in Gynæcology, similar to that held in Medicine and Surgery, now forms part of the final examination.

MEDICAL JURISPRUDENCE.

PROFESSOR, GEO. WILKINS.

This course includes Insanity, the subject being treated of in its Medical as well as Medico-legal aspects. Special attention is devoted to the subject of blood stains, the Clinical, Microscopic and Spectroscopic tests for which are fully described and shown to the class. The various spectra of blood in its different conditions are shewn by Zeiss' Microspectroscope, so well adapted for showing the reactions with exceedingly minute quantities of suspected material. Recent researches in the diagnosis of human from animal blood are alluded to. In addition to the other subjects usually included in a course of this kind, Toxicology is taken up. The modes of action of poisons, general evidence of poisoning, and classification of poisons are first treated of, after which the more common poisons are described, with reference to symptons, post-mortem appearances, and chemical tests. The post-mortem appearances are illustrated by plates, and the tests are shown to the class.

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OPHTHALMOLOGY AND OTOLOGY.

PROFESSOR, FRANK BULLER.

Will include a course of lectures on diseases of the Eye and the Ear, both didactic and clinical. In the former, the general principles of diagnosis and treatment will be dealt with, including three lectures on the errors of refraction and faults of accommodation; in the clinical lectures given in the hospital, cases illustrative of the typical form, of ordinary diseases of the eye and ear will be exhibited and explained to the class. In the out-patient department of the hospital, Students have excellent opportunities of gaining clinical experience.

HYGIENE.

PROFESSOR, ROBERT CRAIK.

Comprises lectures on Drinking Water and Public Water Supplies; conditions of Soil and Water as affecting health, including Drainage and the various methods for the removal of Excreta; the Atmosphere, including Heating and Ventilation; Individual Hygiene, comprising the subjects of Food and Drink; Physical Exercise and Bathing; discussion of the respective merits of the various forms of each, precautions, contra-indications, etc., Village Sanitary Associations; Mutual Protective Sanitary Associations for cities.*

BOTANY.†

PROFESSOR, D. P. PENHALLOW.

The purpose of this course is to give Students a good grounding in the principles of General Morphology, and advance their knowledge of the comparative physiology of animals and plants, and enable them to determine readily such species of plants as may come under their observation.

It comprises :—

1. A course of lectures on general Morphology and Classification, Histology and Physiology. The lectures are illustrated by means of the microscope and by the models and large collections in the Peter Redpath Museum.

2. Practical work in the determination and classification of Species, for which the Botanic Gardens of the University offer special facilities.

3. Studies in Canadian Botany. This work is prosecuted by means of field excursions, which are held as often as opportunity is afforded during the autumn months.

4. A special collection of Medicinal plants, now being formed at the Botanic Gardens, offers a valuable preparation to the course in Pharmacology.

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*Students may attend the Lectures on Sanitation in the Faculty of Applied Science,—Fee $6.

† Exemptions from Botany in the Matriculation, for Arts Students, do not entitle Students to exemptions in the First Year. Students may take in their first year either Botany or Zoology, subject, however, to the provisions of the law in the Province in which they intend to practise medicine. Students desirous to take both subjects in one year must apply to the Faculty for permission.

ZOOLOGY.†

PROFESSOR, SIR WILLIAM DAWSON.

This course includes a systematic study of the classification of animals, illustrated by Canadian examples and by the collections in the Peter Redpath Museum. It forms a suitable preparation for collecting in any department of Canadian Zoology and Palæontology, and an introduction to Comparative Physiology. It may be taken instead of Botany, or along with it, without any additional fee. Students in Botany or Zoology will receive tickets to the Peter Redpath Museum and to the Museum of the Natural History Society of Montreal.

PATHOLOGY.

This Course comprises :—

1. Twenty-five lectures on General Pathology to Students of the third year.

2. Weekly Pathological Demonstrations to Students of the third year. The gross and miscroscopic appearances of specimens collected during the week are demonstrated to the final classes. In addition, special demonstrations in Pathological Histology are given throughout the session.

3. Instruction in Post-Mortems. The Autopsy Room of the General Hospital is in charge of the Demonstrator. The post-mortems are performed by the Students in rotation under his direction, and systematic demonstrations of post mortem methods, including those to be followed in Medico-Legal cases, will also be given.

PRACTICAL MICROSCOPY.

This is an entirely *Optional* Course, and will be conducted by Prof. Wilkins It is intended especially for teaching the *technique* of Miscroscopy. Students will be shown how to examine blood, etc., also to cut, stain and mount specimens. Everything except over-glasses and cabinet cases provided. Fee $8.00.

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§ IV.—QUALIFICATIONS FOR THE DEGREE.

The following are Extracts from the Regulations respecting the qualifications of Candidates for the Degree in Medicine :—

1st. No one entering after October 1st, 1884, will be admitted to the Degree of Doctor of Medicine and Master of Surgery who shall not have attended Lectures for a period of at least four six months' sessions and one three months' summer session* in this University, or some other University, College or School of Medicine approved of by this University.

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* Exemptions from Botany in the Matriculation, for Arts Students, do not entitle Students to exemptions in the First Year. Students may take in their first year either Botany or Zoology, subject, however, to the provisions of the law in the Province in which they intend to practise medicine. Students desirous to take both subjects in one year must apply to the Faculty for permission.

† To be taken after 3rd Winter Session.

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2nd. Students of other Universities so approved and admitted on production of certificates to a like standing in the University shall be required to pass the primary and final examinations in the same manner as Students of the Faculty of Medicine of this University. Such Students if entering at the standard of the Primary examination shall pass that examination on entrance at a special examination in October, for which a fee of two dollars for each subject will be charged.

3rd. Candidates for Final Examination shall furnish Testimonials of attendance on the following branches of Medical Education, viz.:—

Provided, however, that Testimonials equivalent to though not precisely the same as those above stated may be presented and accepted.

Anatomy.	Of which two courses will be required of six months' duration.
Practical Anatomy.	
Physiology.	
Chemistry.	
Materia Medica and Therapeutics.	
Principles and Practice of Surgery.	
Midwifery and Diseases of Women and Children.	
Theory and Practice of Medicine.	
Clinical Medicine.	
Clinical Surgery.	
Medical Jurisprudence.	Of which one Course of Six Months, or two Courses of Three Months will be required.
Practical Chemistry.	Of which One Course will be required of Three Months' duration.
Botany or Zoology.	
Hygiene.	
Histology.	Ten Lectures and Twenty-Five Demonstrations.
General Pathology.	Twenty-five Lectures.

4th. The Candidate must give proof by ticket of having attended during eighteen months the practice of the Montreal General Hospital, or that of some other Hospital approved of by this University, and of having compounded medicines for six months. He must also give proof of having acted as clinical clerk for six months in the wards of a general Hospital recognised by the Faculty.

5th. He must also give proof of having assisted at six autopsies.

6th. He must also give proof by ticket of having attended for at least six months the practice of the Montreal Maternity or other Lying-in-Hospital approved of by this University, and of having attended at least six cases of labor.

7th. No one will be permitted to become a candidate for the final or degree examination who shall not have attended at least one Session of this University.

8th. Courses of less length than the above will only be received for the time over which they have extended.

9th. Students, except by special permission of the Faculty, must pursue the subjects of Anatomy, Chemistry, Histology and Botany in their first session, and are advised to take Physiology in addition.

10th. Candidates who fail to present themselves for to pass in any of the subjects of the first two years will be granted a supplemental examination at the beginning of the following session.

11th. Supplemental examinations will not be granted except by special permission of the Faculty, and on written application stating reasons, and accompanied by a fee of $2 for each examinations.

12th. No Candidate will be permitted to proceed with the work of the final year until he has passed all the subjects comprised in the Primary Examination.

13th. Candidates who fail to pass in a subject of which two courses are required may, at the discretion of the Faculty, be required to attend a third course, and furnish a certificate of attendance thereon.

A course in Practical Anatomy will be accepted as equivalent to a third course of lectures in General and Descriptive Anatomy.

14th. The requirements for the summer session, when as at present taken after the third winter session, shall be :—

(*a*) Daily Hospital attendance ;

(*b*) Maternity attendance ; and

(*c*) Any two weekly clinics, in addition to the clinics in General Medicine and Surgery.

15th. Every Candidate for the Degree must, on or before the first day of March, present to the Registrar of the Medical Faculty testimonials of his qualifications, entitling him to an examination, and must at the same time deliver to the Registrar of the Faculty the following Certificate :—

MONTREAL,——18—

I, the undersigned, being desirous of obtaining the Degree of Doctor of Medicine and Master of Surgery, do hereby declare that I have attained the age of twenty-one years, or (if the case be otherwise) that I shall have attained the age of twenty-one years before the next graduation day, and that I am not [or shall not be at that time] under articles as a pupil or apprentice to any Physician, Surgeon, or Apothecary.

(Signed,) A. B.

16th. The trials to be undergone by the Candidate shall be such as are referred to under Section V.

17th. The following Oath or Affirmation will be exacted from the Candidate before receiving his degree :—

SPONSIO ACADEMICA.

In Facultate Medicinæ Universitatis.

Ego, A——B——, Doctoratus in Arte Medica, titulo jam donandus, sancto coram Deo cordium scrutatore, spondeo ; me in omnibus grati animi officiis erga hanc Universitatem, ad extremum vitæ halitum, perseveraturum ; tum porro artem medicam caute, caste, et probe exercita-

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turum ; et quoad in me est, omnia ad ægrotorum corpurum salutem conducentia, cum fide procuraturum ; quæ denique, inter medendum, visa vel audita silere conveniat, non sine gravi causa vulgaturum. Ita præsens mihi spondenti adsit Numen.

18th. The fee for the Degree of Doctor of Medicine and Master of Surgery shall be thirty dollars, to be paid by the successful Candidate immediately after examination.

§ V.—EXAMINATIONS.

Weekly examinations are held, to test the progress of the Student; and in addition two or three written examinations are given throughout the Session.

The examinations at the close of each Session are arranged as follows:—

First Year.

Pass Examination in Botany or Toology, Histology and Visceral Anatomy.

Sessional Examination in Anatomy, Chemistry and Physiology.

A due proportion of marks will be allowed for the Sessional Examination in each subject, which marks shall be reckoned in the ranking of the Candidate after the examination of the following year.

Second Year.

Pass Examination in Anatomy, Chemistry, Practical Chemistry, Physiology and Histology.

Sessional Examination in Pharmacology and Therapeutics.

One hundred marks will be allowed for the Sessional Examination, which marks shall be reckoned in the ranking of the Candidate after the examination of the following year.

Third Year.

Pass Examination in Pharmacology and Therapeutics, Medical Jurisprudence, Hygiene* and General Pathology.

Fourth Year.

Pass Examination in Medicine, Surgery, Obstetrics, Gynæcology, Clinical Medicine, Clinical Surgery and Clinical Obstetrics, Clinical Gynæcology, Practical Pathology.

By means of the above arrangement a certain definite amount of work must be accomplished in each year, and an equitable division is made between the Primary and Final branches.

With regard to the Primary Examination at the end of the second year, it remains optional with the Student whether he passes in all the branches or leaves two for the third year. In any case, Chemistry and Anatomy must be taken at the close of the second year, except it be otherwise agreed to by the Faculty.

* The examinations in Hygiene are held at the close of the summer session.

§ VI.—MEDAL AND PRIZES.

1. The Holmes Gold Medal, awarded to the Student of the graduating class who receives the highest aggregate number of marks for the best examinations, written and oral, in both Primary and Final branches.

The Student who gains the Holmes Medal has the option of exchanging it for a Bronze Medal, and the money equivalent of the Gold Medal.

2nd. A Prize in Books awarded for the best examination, written and oral, in the Final branches. The gold medallist is not permitted to compete for this prize.

3rd. A Prize in Books awarded for the best examination, written and oral, in the Primary branches.

4th. The Sutherland Gold Medal, awarded for the best examination in Theoretical and Practical Chemistry, together with creditable examination in the Primary branches.

5th. A Prize in Books for the best examination in Practical Anatomy.

6th. Prizes in Botany and Zoology.

A Prize in Books for the best examination.

7th. The Clemesha Prize in Clinical Therapeutics, books to the value of $25.00.

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§ VII.—FEES.

The total collegiate fees for all Students entering on and after the 1st of October, 1890, will be four hundred dollars, to be paid in four annual instalments of one hundred dollars each. The above sum represents the tuition for four winter and one summer sessions. Additional summer sessions may be attended on payment of the registration fee, $5.00. (For graduation fee, see § IV, clause 16, supra).

All fees are payable in advance to the Registrar, and, except by permission of the Faculty, will not be received later than 1st November.

It is suggested to parents or guardians of Students that the fees be transmitted direct by cheque or P. O. Order to the Registrar, who will furnish official receipts.

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§ VIII.—TEXT-BOOKS.

(*Prices current in Montreal.*)

ANATOMY.—Gray, Wilson, Quain (Eng. ed.).

PRACTICAL ANATOMY.—Heath's Dissector, Holden's Dissector, and Landmark's Ellis' Demonstrations.

PHYSICS.—Balfour, Stewart.

INORGANIC CHEMISTRY.—Wurtz's Elementary Chemistry, Remsen's do.

ORGANIC CHEMISTRY.—Remsen.

PRACTICAL CHEMISTRY.—Odling, Galloway, Fresenius.

PHARMACOLOGY and THERAPEUTICS.—Wood, Hare, Edes, Bruce.

PHYSIOLOGY.—Huxley's *Elementary Lessons*, Foster, Prof. Mills' Text-Book of Physiology and Outlines of Lectures.

PATHOLOGY.—Delafield and Prudden.

HISTOLOGY.—Klein's Elements, Schafer's Essentials of Histology.

SURGERY.—Holmes' Surgery (Eng. Ed.), Erichsen, Druitt, Bryant, Treves.

PRACTICE OF MEDICINE.—Flint, Roberts, Bristowe, DaCosta, Fagge, Osler.

FOR REFERENCE.—Pepper's System of Medicine.

CLINICAL MEDICINE.—Finlayson's Clinical Manual, Fenwick on Medical Diagnosis, Warner on Medical Case Taking.

MEDICAL JURISPRUDENCE.—Husband, Guy and Ferrier, Reese.

MIDWIFERY.—Lusk, Galabin.

DISEASES OF CHILDREN.—Smith, Goodhart and Starr.

GYNÆCOLOGY.—Thomas and Munde, Skeene, Thurburn, Goodell's Lessons.

HYGIENE.—Parks, Wilson (Eng. Ed.).

BOTANY.—Gray's Text-Book of Histology and Physiology.

ZOOLOGY.—Dawson's Handbook of Canadian Zoology.

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§ IX.—MUSEUM.

For the past fifty years the rich Pathological material furnished by the Montreal General Hospital has been collected here. The Faculty are also greatly indebted to many medical men throughout different parts of the world for important contributions to the Museum.

During the past few years, numerous and extremely important additions have been made to the Medical Museum. (See special Announcement of the Faculty of Medicine).

It is particularly rich in specimens of Aneurisms. In addition to containing a large number of the more common varieties of these formations, there are specimens of such rare conditions as Aneurism of the Hepatic and Superior Mesenteric Arteries, Traumatic Aneurism of the Vertebral, together with several of the Cerebral and Pulmonary Arteries. The most important collection probably in existence, of hearts affected with "Malignant Endocarditis," is also ound. The Faculty are indebted to Prof. Osler, late of this University, for this collection.

Obstetrical Department of the Museum.

Besides the ordinary pathological preparations, dry and moist-usually found in Museums, this department contains a complete set of models of deformed pelves, a series of preparations in wax, illus trating the normal relations of the pelvic organs, the development of the Uterus and its contents during pregnancy, various abnormalities, twin pregnancy, fœtal circulation, etc., a series of colored casts of frozen sections, Tarnier's artificial pelvis, Budin's bronze mechanical pelvis, models of obstetrical instruments, etc.

Additions are being constantly made, and ere long the department will possess a complete collection of models, casts, preparations and apparatus for the practical teaching and illustration of Obstetrics.

Anatomical Museum.

In addition to the already large collection of normal and abnormal osteology, comparative and human skeletons of various classes of animals, moist preparations and frozen sections, the following preparations have been recently obtained :—

(1) A series of articulated skeletons of fore and hind limbs of the various domestic animals, prepared by the articulator, Mr. Bailly.

(2) Numerous moist preparations presented by the Professor and Demonstrator of Anatomy.

(3) A complete set of Steger's beautiful colored casts, taken from the celebrated frozen sections of Professors His and Braune of Leipzig. These preparations have been placed in the Museum, so that they can be constantly consulted by the Students.

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(4) (*a*) A complete set of Steger's brain sections ;

(*b*) Set of hardened brains with the various lobes, convolutions, ganglia, etc., in different colors ;

(*c*) Models of the cerebro-spinal and sympathetic nervous systems.

§ X. LIBRARY.

The Library of the Medical Faculty now comprises upwards of thirteen thousand volumes, the largest special library connected with any medical school on this continent.

The standard text-books and works of reference, together with complete files of the leading periodicals, are on the shelves. Students may obtain books on making a deposit of $5, which is refunded on returning the volumes.

The Medical Faculty have great pleasure in acknowledging the following large additions to this library.

(1) The Gadsdsen library of Comparative Medicine.

(2) The library of the late Dr. Godfrey.

(3) The library of the late Prof. Richard, L. Macdonell.

§ XI.—McGILL MEDICAL SOCIETY.

This Society, composed of enregistered Students of the Faculty, meets once a week during the Semmer Session, and fortnightly during the Winter, for the reading of papers and the discussion of medical subjects. It is presided over by a physician chosen by the members.

A reading room has been established in connection with the Society, in which the leading English and American Medical journals are on file.

The leading daily and weekly newspapers of the Dominion are also kept on file.

§ XII.—COST OF LIVING, ETC.

This will, of course, vary with the taste and habits of the Student, but the necessary expenses need not exceed those in smaller towns. Good board may be obtained from $15 to $20 per month. A list of boading houses is prepared annually by the Secretary of the University, and may be procured from the Janitor at the Medical College.

§ XIII.—HOSPITALS.

The city of Montreal is celebrated for the number and importance of its public charities. Among these its public hospitals are the most prominent and widely known. Those in which Medical students of McGill University will receive clinical instruction are:—1. The Montreal General Hospital; 2. The Royal Victoria Hospital; 3. Montreal Maternity Hospital; 4. The Montreal Dispensary. The Montreal General Hospital has for many years been the most extensive clinical field in Canada. The old buildings, proving inadequate to meet the increased demand for hospital accommodation, have this year been about doubled in size by the addition of the Campbell Memorial and Greenshields pavilions and the new surgical amphitheatre.

The Royal Victoria Hospital, at the head of University street-will be opened for the reception of patients during the coming session, and will afford exceptional opportunities for clinical instruction and practical training.

Montreal General Hospital.

During the past year this hospital has been enlarged by the addition of two new Surgical Pavilions containing over 100 beds.

Attached to these wings is a large building containing a surgical amphitheatre furnished with all the modern appliances for the carrying out of aseptic methods. This amphitheatre has a seating capacity of over 300.

Besides the amphitheatre and its adjoining rooms for etherizing, for instruments and for the preparation of surgical dressings, there are on the same flat smaller operating rooms and isolation wards; the story below is chiefly set apart for laboratories for clinical chemistry, bacteriology and general pathological work.

A much larger number of in-door and out-door patients receive treatment in the Montreal General Hospital than in any other Canadian hospital. Last year's report shows that between two and three thousand medical and surgical cases were treated in the wards, and the great portion of these were acute cases, as may be gathered from the fact that the average duration of residence was only 23, 34 days.

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The large number of out-door patients that are treated in the Hospital—upwards of 38,000 annually—supply illustrations of most of the diseases of infants and children, of very many of the eye and skin, and of those chronic and ill-defined ailments which, as they do not require admission to the wards of a hospital, would not otherwise come under the observation of the Student.

The large number of patients affected with diseases of the eye and ear, now attending the out-door department, will afford Students ample opportunity to become familiar with all the ordinary affections of those organs, and to make themselves proficient in the use of the ophthalmoscope, and it is hoped that every Student will thus seek to gain a practical knowledge of this important branch of Medicine and Surgery. Operations are performed on the eye by the Ophthalmic Surgeon after the out-door patients have been seen, and Students are invited to attend the same, and, as far as practicable, to keep such cases under observation so long as they remain in the Hospital.

There are now special departments in the Hospital for Gynæcology and Laryngology, presided over by specialists in these branches. Students are thus enabled to acquire special technical knowledge under skilled direction. The plan of teaching practical gynæcology for the past five years with marked success has been the limitation of the number of Students to two or three, who, in rotation, assist at the examinations and receive instruction in the diagnosis and treatment of uterine diseases and the use of gynæcological instruments.

Recently two additional special clinics have been instituted in connection with the Out-door Department: one for diseases of children and the other for diseases of the nervous system.

Clinical Clerks in both medical and surgical wards are appointed every three months, and each one during his term of service conducts, under the immediate direction of the clinical professors, the reporting of all cases in the ward allotted him. Students entering on and after October next will be required to show a certificate of having acted for six months as clinical clerk in medicine or surgery. The holding of one of these offices is found to be of the greatest possible advantage to the student as affording a true *practical* training for his future professional life. They will be awarded on

application at the end of each Session to final Students of that year, in order of their standing in the primary examination.

DRESSERS are also appointed to the Out-door Department. For these appointments, application is to be made to the Assistant Surgeons or to the Resident Surgeon in charge of the out-patients' department.

Sessional Tickets entitling Students to admission to the Hospital must be taken out at the commencement of each session; price $8. Perpetual tickets, if taken out at the beginning of the first session of the Hospital attendance, will cost $20, if otherwise, *i.e.*, if not paid for until a later date, $24 will be charged.

The Royal Victoria Hospital.

This Hospital is situated a short distance above the University grounds, on the side of the mountain, and overlooks the city. It was founded in July, 1887, by the munificence of Lord Mount-Stephen and Sir Donald Smith, who gave half a million dollars each for this purpose.

The buildings, which are nearing completion, were designed by Mr. Saxon Snell of London, England, to accommodate 250 patients.

The Hospital is composed of three massive buildings connected together by stone bridges, an administration block in the centre, a wing on the east side for medical patients, and a wing on the west side for surgical patien ts.

The administration block contains ample accommodation for the resident medical staff, the nursing staff and domestics. The patients' entrance, the dispensary and admission rooms are also situated in this building.

The Medical wing contains three large wards each 123 feet long by 26 feet 6 inches wide, one ward 40 feet by 26 feet 6 inches, and twenty-one private and isolation wards averaging 16 feet by 12 feet, also a Medical Theatre with a seating capacity for 250, and rooms adjacent to it for Clinical Chemistry and other purposes.

The Surgical wing contains three large wards each 122 feet long by 26 feet 6 inches wide, four wards each 40 feet by 32 feet, and sixteen private and isolation wards averaging 16 feet by 12 feet; also a Surgical Theatre with a seating capacity for 250, with six accessory rooms adjacent for preparation and after-recovery purposes.

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Arrangements for the reception of Students and regulations as to Hospital fees, etc., will probably be announced next session.

Montreal Dispensary.

ST ANTOINE STREET.

Over 12,000 patients yearly are treated at this Institution. The cases are of great variety, comprising a large number of pulmonary affections and children's diseases. Minor operations are of daily occurrence, and excellent practice is afforded in the application of splints and bandages. The attending physicians furnish Students with all possible facilities. The hours of attendance are from 12 to 2 daily during the winter session and from 4 to 6 p.m. during the summer session.

The Montreal Maternity.

The Faculty have great pleasure in announcing that the Corporation of the Montreal Maternity have recently made very important additions to their building, and have still further improvements in contemplation. Students will therefore have greatly increased facilities for obtaining a practical knowledge of obstetrics. An improved Tarnier-Budin phantom is provided for the use of the Students, and every facility afforded for acquiring a practical knowledge of the various obstetric manipulations. The institution is under the direct supervision of the Professor of Midwifery, who devotes much time and attention to individual instruction. Students who have attended one course of lectures are furnished with cases in rotation, which they are required to report and attend till convalescence. Clinical midwifery has been placed upon the same basis as Clinical Medicine and Surgery, and a final Clinical examination instituted. Regular courses of Clinical Lectures are given throughout the summer and winter sessions. Students will find it very much to their advantage to pay special attention to their Clinical work during the Summer Session. Though only six cases are required to qualify for the license of the Ontario and Quebec Medical Boards, twenty cases are demanded by the licensing bodies of Great Britain. A sufficient number of cases will be assigned to Students who contemplate presenting themselves for

British qualifications. Two resident accoucheurs are appointed yearly from the graduating class, to hold office for a period of six months each. By an arrangement with the authorities of the Montreal General Hospital one of the residents acts as Clinical assistant to the Gynæcologists for a period of six months, a change which has greatly enhanced the value of this appointment.

Fee for twelve months, $12.00.

§ XIV.—STUDENT'S APPOINTMENTS.

General Hospital—Five Resident Medical Officers.
Clinical Clerk, Gynæcology.
" " Laryngology.
" " Diseases of Children.
" " Dermatology.
" " Diseases of Nervous System.
University Maternity—Two Resident Medical Officers.
Out-door Dressers.
Dressers in Eye and Ear Department.
Surgical Dressers (in-door).
Medical Clinical Clerks.
Post-morten Clerks.
Student Demonstrators of Anatomy, 4 third-year Students.
Prosectors to Chair of Anatomy, 2.
Assistants in Practical Histology Course, 2.
Assistants in Practical Physiology Course, 4.
Assistants in Practical Chemistry, 4.

§ XV.—RULES FOR STUDENTS.

1. In the case of disorderly conduct, any Student may, at the discretion of the Professor, be required to leave the Class-room. Persistence in any offence against discipline after admonition by the Professor shall be reported to the Dean of the Faculty. The Dean may, at his discretion, reprimand the Student, or refer the matter to the Faculty at its next meeting, and may in the interval suspend from classes.

2. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the Faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

3. While in the College, Students are expected to conduct themselves in the same orderly manner as in the Class-room.

When Students are brought before the Faculty under the above rules, the Faculty may reprimand, inpose fines, disqualify from competing for prizes and honors, suspend from Classes, or report to the Corporation for expulsion.

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TIME TABLE—FIRST AND SECOND YEARS, 1892-93.

A.M.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
9	Anatomy Examination.	Anatomy.	Anatomy.	Anatomy.	Anatomy.	Physiology, 2nd Year.
10	* Practical Chemistry, 2nd Year, till 12 o'clock.	Practical Chemistry, Botany, 1st Year.	Practical Chemistry, 2nd Year.	Practical Chemistry, Botany, 1st Year.	Practical Chemistry, 2nd Year.	Practical Chemistry, Practical Physiology, Histology Demonstration.
11	Out-Patients, Montreal Gen'l. Hospital.	Out-Patients, Montreal Gen'l. Hospital. Zoology.	Out-Patients, Montreal Gen'l. Hospital.	Out-Patients, Montreal Gen'l. Hospital.	Out-Patients, Montreal Gen'l. Hospital. Zoology.	Out-Patients, Montreal Gen'l. Hospital.
P.M. 2	Physiology Examination, 2nd Year.	Physiology, 2nd Year.	Physiology, 2nd Year.	Physiology, 1st Year.	Physiology, 1st and 2nd Years.	
3	Chemistry Examination.	Chemistry.	Chemistry.	Chemistry.	Chemistry.	
4	Materia Medica, Examination. Physiology, 1st Year.	Materia Medica, Physiology, 1st Year.	Therapeutics, Physiology, 1st Year.	Materia Medica,	Materia Medica, Histology Lectures, 1st Year.	
4 to 6		Practical Histology.		Practical Histology.		
A.M. 10to12	Practical Anatomy.	Practical Anatomy	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.	Practical Anatomy.

N,B.—The Demonstrator's Hours in the Dissecting Room from 10–12 a.m., and from 8–10 p.m. * Until Christmas only.

TIME TABLE—THIRD AND FOURTH YEARS, 1892–93.

A.M.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
9	Midwifery.	Midwifery.	Gynæcology.	Midwifery.	Gynæcology.	
10	Jurisprudence.	Pathology.	Jurisprudence		Jurisprudence.	
A.M. 11.15	Medical Clinic, 4th Year.	Medical Clinic, 3rd Year.	Medical Clinic, 3rd and 4th Years.	Clinical Therapeutics.	Medical Clinic, 4th Year.	Medical Clinic, 3rd Year.
1	Surgical Clinic, (3)	Surgical Clinic, (4)		Surgical Clinic, (4)	Surgical Clinic, (3)	Surgical Clinic, (4)
2						
3	Materia Medica.	Materia Medica.	Therapeutics,	Ophthalmic Clinic. †	Materia Medica.	
4	Medicine.	Medicine.	Medicine.	Medicine.	Medicine.	
5	Surgery.	Midwifery 3rd year.	Surgery.	Surgery.	Surgery.	

Autopsies are performed at the General Hospital between 12 a. m. and 2 p.m. † 4th year.

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Faculty of Law.

Principal Sir WILLIAM DAWSON, LL.D. (Ex-Officio).
N. W. TRENHOLME, Q.C., M.A., D.C.L., Dean, and GALE Professor of Roman and International Law.
Honourable Mr. JUSTICE WURTELE, D.C.L., Professor of the Law of Real Estate.
J. S. ARCHIBALD, Q.C., D.C.L., Professor of Commercial Law.
L. H. DAVIDSON, Q.C., M.A., D.C.L., Professor of Commercial Law.
CHRISTOPHE A. GEOFFRION, Q.C., D.C.L., Professor of the Law of Contracts.
ARCHIBALD MCGOUN, M.A., B.C.L., Professor of Legal Bibliography.
THOMAS FORTIN, LL.L., B.C.L., Professor of Civil Procedure and Municipal Law.
W. DEM. MARLER, B.A., B.C.L., Professor of Notarial Law.
Honourable C. J. DOHERTY, B.C.L., Professor of Civil Law.
HARRY ABBOTT, Q.C., B.C.L., Professor of Commercial Law.
EUGENE LAFLEUR, B.A., B.C.L., Professor of Civil Law.

Dean of Faculty.—Professor TRENHOLME.

Secretary and Librarian of the Faculty.—Professor MCGOUN.

Corporation Examiners for Degrees.—Professors TRENHOLME and FORTIN.

Matriculation Examiners of the Faculty.—Professors ARCHIBALD and LAFLEUR.

The Faculty of Law feels much satisfaction in being able to announce that the important step, so long and earnestly desired by all friends of the University, of placing the McGill School of Law on such a substantial and permanent basis as to enable it efficiently to perform its part in the great work of legal education in Canada, has been accomplished by the munificent endowment presented to the University by Mr. William C. McDonald. This endowment places the Faculty in a position to offer to those who desire to study the Law, either with a view to its practice as a profession or as a means of culture, or as a qualification for the discharge of the higher duties of citizenship, a comprehensive and complete course of legal study, with the use of library, reading room and other aids which have not heretofore been at the command of the Faculty. The course of study to be pursued, extending over a period of three years, and the instruction to be imparted, while designed so far as possible to qualify professional Students for the practice of their profession,

will also fully recognize the important fact, which, no doubt, was a main inducement for the action of the Faculty's generous benefactor, that upon the character of the Bar depends that of the Bench and of the administration of justice, and to a great extent also the character of the public men and public life of the country; that, in fact, from the ranks of no other profession are so many called to fill high positions of trust and to perform duties, the efficient and upright discharge of which is of vital importance to the community.

In re-organizing the Faculty, under the W. C. McDonald endowment, a number of well-known names have been added to the staff, as shown above, and the courses largely specialized. It was felt that while professional men, engaged in the active practice of their profession, might be relied upon to deliver regularly a limited number of lectures, on special subjects, they could not be expected to undertake to submit to the serious interference with their business and inevitable interruptions involved in very lengthy courses. And to obviate the difficulties and drawbacks necessarily arising from sole dependence, as heretofore, on professional men in active practice, for attending to the interests and maintaining the efficiency of the Faculty, and to meet a deeply-felt want in this respect, the Dean has been appointed as a salaried officer, whose duty it will be primarily to devote his whole time to the work.

Further, the Professor of Legal Bibliography has been appointed secretary and librarian, and will have supervision of the Library,—comprising at present the law libraries of the late Mr. Griffin, Q.C., of the late Chancellor Day, and of part of the library of the late Mr. Justice McKay, all of which were bequeathed to the University; and also of the law library of the late Mr. Justice Torrance, now the property of the Fraser Institute, of which he was a trustee—the use of which has been generously granted to the Faculty by the present trustees. The above law books will of themselves afford to the law student a library which will generally prove sufficient for his wants. and which will be kept up and added to by the expenditure of a sum annually in the purchase of books. There will also be provided in connection therewith a reading room, in which the leading law magazines and literature of the day will be found.

As a place for the study of Law by professional Students, Montreal affords undoubted advantages, among other reasons, on account

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of the great variety and extent of the legal business done there, the constant sitting of all the principal courts of the Province, and the large number of first-class law offices open to Students; while for all students, and especially for students of historic and philosophic jurisprudence, no more interesting or attractive legal system exists than that prevailing in this Province, where may be daily seen and studied, not simply theoretically, but in active operation as parts of our law, the three famous systems of jurisprudence,—Roman, French and English,—with additions and modifications introduced by our own legislatures and courts. The imposing features of the Roman Law may be recognized throughout the greater portion of our Civil Code, often combined with or incorporated into that noble system elaborated and perfected by Pothier and other great French jurists, both of the ancient and modern epochs, which is the direct source of most of our Civil Law; while nearly the whole body of English Criminal and Constitutional Law and large portions of English Commercial Law are equally parts of the law of this Province.

The importance of the Notarial profession, and of a knowledge of notarial practice and conveyancing, has led to the appointment as a full member of the faculty of a Professor of Notarial Law, whose course of lectures will be attended by all professional Students.

With a view to extending as far as possible the usefulness of the Faculty, the courses of lectures on commercial subjects have been so arranged, that young men engaged in banks or other business houses can attend them without interference with their regular duties. Students of other departments of the University, and, in fact, all who may desire to do so, may attend such particular courses as they may see fit to select. It is hoped that the courses delivered will be found beneficial to all students, indeed to all who may desire to know something of the constitution and laws by which they are governed, and of a science which has been characterized by Burke as "the collected reason of ages, combining the principles of original justice with the infinite variety of human concerns."

While the Faculty accepts for matriculation the requirements stated in the Regulations below, it nevertheless strongly recommends Students intending to study law to take the B. A. course in the Faculty of Arts as a preliminary qualification; and if that be not attainable, as much as possible of the Arts course.

Lectures and Examinations.

The classes in Law will begin in the Faculty Rooms, Fraser Institute, on Monday, the 5th September, 1892.

The Supplemental and Matriculation Examinations will be held in the Faculty Rooms, Fraser Institute, on Friday, 2nd September, at 4 p.m.

The lectures will be delivered in the Faculty Rooms in two terms: the first beginning on Monday, 5th September, 1892, and the second beginning on Monday, 2nd January, 1893.

The Examinations will be held in the William Molson Hall, McGill College building, at Christmas, and at the close of the session, and as announced below, unless otherwise determined by the Faculty.

The complete course of study in this Faculty extends over three years. Attendance at lectures is required of all students proceeding to the degree of B.C.L.

Scholarships and Prizes.

Two scholarships, each of one hundred dollars, are offered for competition to Students whose domicile is not in Montreal or vicinity. They will be awarded, after the Sessional Examinations in April, 1893, upon the results of the Examinations of the first year, and will be payable during the second year.

Prizes open to competition by all the Students will also be given to the Students taking the best standing in each year.

No scholarship or prize shall, however, be awarded to any Student unless a sufficiently high standing, in the estimation of the Faculty, be attained, to merit it.

Classification of Students.

Matriculated Students who do not take the whole course are classed as Partial Students, and are not entitled to proceed to the Degree of B.C.L.

Occasional Students will be received without matriculation for attendance on any particular series of Lectures.

Students who have completed their course of three years, and have passed a satisfactory examination, will be entitled, upon the certificate and recommendation of the Faculty, to the Degree of Bachelor of Civil Law.

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COURSE OF STUDY FOR 1892-93.

Roman Law :

1st Year.
History of Roman Law
Maine, Ancient Law
Institutes of Justinian
Gaius, Commentaries } THE DEAN.
2nd and 3rd Years.
Institutes of Justinian
Gaius, Commentaries
Maine, Ancient Law

Criminal Law } THE DEAN.
Constitutional Law }

Law of Real Estate :

History and nature of various kinds of tenure of real property in the Province, and their incidents ..... Professor WURTELE.

Commercial Law :

Evidence ..... Professor ARCHIBALD.

Commercial Law :

Merchant Shipping ..... Professor DAVIDSON.

Law of Contracts ..... Professor GEOFFRION.

Legal Bibliography and History :

Sources of our Law : Relation of our Civil Law to the Modern French Law. Branches of our law based on English Law. Classification of authors, French and English ..... Professor MCGOUN.

Civil Procedure :

Jurisdiction of the civil courts
General Rules of Pleading } Professor FORTIN.
Code of Procedure

Notarial Law :

Notarial Practice and Conveyancing ..... Professor MARLER.

Civil Law :

Lease and Hire ..... Professor DOHERTY.

Commercial Law :

Law of Carriers ..... Professor ABBOTT.

Civil Law :

Privileges and Hypothecs ..... Professor LAFLEUR.

FACULTY REGULATIONS.

1. Any person desirous of becoming a Matriculated Student may apply to the Secretary, Prof. McGoun, 181 St. James St., for examination and entry in the Register of Matriculation, and shall procure a ticket of Matriculation and tickets of admission to the Lectures for each Session of the Course.

2. The degree of B.A. obtained from any Canadian or other British University; or a certificate of having passed the examination before the Bar for admission to study Law in the Province of Quebec; or the intermediate Examination in the Faculty of Arts in McGill University, shall be accepted in lieu of Examination for Matriculation in this Faculty. For other candidates the Matriculation Examination this year will be in the following subjects :—

Latin.—Virgil, Æneid, Book I.; Cicero, Orations I. and II. against Catiline. Latin Grammar.

French.—De Fivas' "Grammaire des Grammaires;" *Molière, "Le Bourgeois Gentilhomme;" †Translation into French of Macaulay's Essay on Frederick the Great.

Exercises in Composition and Grammatical Analysis, in English and French.

Mathematics.—Arithmetic; Algebra to the end of Simple Equations; Euclid, Books I., II., III.

Philosophy.—*Whately's Logic; †Logique de Port Royal; †Cousin, Histoire de la Philosophie; *Stewart's Outline of Moral Philosophy.

N.B.—The works mentioned above preceded by an asterisk are for English Students only. Those preceded by a cross are for French Students only. The remainder are for both English and French.

3. Students in Law shall be known as of the First, Second and Third Years, and shall be so graded by the Faculty. In each year, Students shall take the studies fixed for that year, and those only, unless by special permission of the Faculty.

4. The register of Matriculation shall be closed on the 1st November in each year, and return thereof shall be immediately made by the Dean to the Registrar of the University. Candidates applying thereafter may be admitted on a special examination to be determined by the Faculty; and, if admitted, their names shall be returned in a supplementary list to the Registrar.

5. Persons desirous of entering as Occasional Students shall apply to the Dean of the Faculty for admission as such Students, and shall obtain a ticket or tickets for the class or classes they desire to attend.

6. Students who have attended collegiate courses of legal study in other Universities, for a number of terms or sessions, may be admitted, on the production of certificates, to a like standing in this University, after examination by the Faculty.

7. All Students shall be subject to the following regulations for attendance and conduct :

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(1) A class-book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted, and the said class-book shall be submitted to the Faculty at each monthly meeting; and the Faculty shall, after examination of such class-book, decide which Students shall be deemed to have been sufficiently regular in their attendance to entitle them to proceed to the examination in the respective classes.

(2) Punctual attendance on all the classes proper to his year is required of each Student. Professors will note the attendance immediately on the commencement of their lectures, and will omit the names of Students entering thereafter, unless satisfactory reasons are assigned. Absence or tardiness, without sufficient excuse, or inattention or disorder in the Class room, if persisted in after admonition by the Professor, will be reported to the Dean of the Faculty, who may reprimand the Student or report to the Faculty, as he may decide. While in the building, or going to and from it, Students are expected to conduct themselves in the same orderly manner as in the Class rooms. Any Professor observing improper conduct in the Class rooms, or elsewhere in the building, will admonish the Student, and, if necessary, report him to the Dean.

(3) When Students are reported to the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, disqualify from competing for prizes or honors, suspend from classes, or report to the Corporation for expulsion.

(4) Any Student injuring the furniture or building will be required to repair the same at his own expenses, and will, in addition, be subject to such penalty as the Faculty may see fit to impose.

(5) The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a Session, shall in each case be determined by the Faculty.

(6) All cases of discipline involving the interests of more than one Faculty, or of the University generally, shall be reported to the Principal, or, in his absence, to the Vice-Principal.

8. The College year shall be divided into two terms, the first extending to the Christmas vacation, and the second from the expiration of the Christmas vacation to the end of April following.

The lectures will be delivered between the hours of half-past eight and half-past nine in the morning and four and half-past six in the afternoon; and special lectures in the evening; the whole at such hours and in such order as shall be determined by the Faculty. Professors shall have the right to substitute an examination for any such lecture.

9. At the end of each term there shall be a general examination of all the classes, under the superintendence of the Professors, and of such other examiners as may be appointed by the Corporation; which examination shall be conducted by means of printed questions, answered by the Students in writing in the presence of the Examiners. The result shall be reported as early as possible to the Faculty.

After the examinations at the close of the second term, the Faculty shall decide the general standing of the Students, taking into consideration the examinations of both terms, both of which examinations shall be considered the Sessional or Final Examinations for the college year, as the case may be.

10. No Student shall be considered as having kept a Session unless he shall have attended regularly all the courses of Lectures, and shall have passed the Sessional Examinations to the satisfaction of the Faculty in all the classes of his year.

11. The Faculty shall have the power, upon special and sufficient cause shown, to grant a dispensation to any Student from attendance on any particnlar Course or Courses of Lectures, but no distinction shall in consequence be made between the Examinations of such Students and those of the Students regularly attending Lectures. No Student shall pass the degree of B.C.L. unless he has prepared a Thesis, either in French or English, which shall have been approved by the Faculty.

12. The subject of such Thesis shall be left to the choice of the Student, but it must fa.l within the range of study of the Faculty, and shall not exceed twenty pages of thirty lines each. Each Student shall, on or before the first day of March, forward such Thesis to the Secretary of the Faculty, marked with the *nom de plume* which he shall adopt, and accompanied with a sealed envelope, bearing the same *nom de plume* on it, and containing inside his name and the subject of his Thesis, and the envelope shall be opened in presence of the Faculty after the final decision shall be given on the respective merits of the several Theses.

13. The Elizabeth Torrance Gold Medal, in the Faculty of Law, shall be awarded to the Student who, being of the Graduating Class, having passed the Final Examinations, and having prepared a Thesis of sufficient merit in the estimation of the Faculty to entitle him to compete, shall take the highest marks in a special Examination for the Medal, which examination shall include the subject of Roman Law.

14. Every Candidate, before receiving the Degree of B.C.L., shall make the following declaration :—

Ego A.B. polliceor, me, pro viribus meis, studiosum fore communis hujus Universitatis boni, operamque daturum ut decus ejus ac dignitatem amplificem, et officiis omnibus ad Baccalaureatus in Jure Civili gradum pertinentibus fungar.

15. The fees in the Faculty are as follows :—

Registration Fee	$ 5 00
Sessional Fee by Ordinary Students	36 00
Graduation Fee, including registration as voter in election of Fellows	12 50
Fee for supplemental examination	5 00
Sessional Fee by Occasional or Partial Students, for each course	3 00
For Occasional or Partial Students who are students in other departments of the University or affiliated Colleges, taking two or more courses, a single fee of	5 00

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Matriculation and Sessional Fees must be paid on or before Nov. 1st; and if not so paid, the name of the Student shall be removed from the books, but may be re-entered by consent of the Faculty, and on payment of a fine of not less than $3. Students already on the books of the University shall not be required to pay any Matriculation Fee.

16. Occasional or Partial Students may be admitted into any class on such terms as shall be arranged by the Faculty.

17. The requirements and conditions for obtaining the Degree of D.C.L. in course can be ascertained upon application to the Secretary of the Faculty.

SYLLABUS.

Friday, 2nd September, 1892. Matriculation and Supplemental Examinations.
Monday, 5th. Ordinary Lectures begin.
Saturday, 10th December. Last day for notice to be sent to Secretary of Section of the Bar by candidates at the January Examination for admission to study or to practise Law in the Province of Quebec.
Monday, 2nd January, 1893. Lectures, Second Term, begin.
Wednesday, 11th January, 1893. Bar Examinations take place at Montreal.
Tuesday, 27th Feb. Theses for Degree of B.C.L.
Monday, 23rd April. Declaration of results of Examination.
Friday, 27th April. Convocation for Degrees in Law.
Monday, 4th June. Last day for notice to be sent to Secretary of Section of the Bar by candidates at the July Examination for admission to study or to practise Law in the Province of Quebec.
Wednesday, 5th July, 1893. Bar Examinations take place at Quebec.

EXAMINATIONS.

The dates of Examinations, subject to be changed if need be, by the Faculty.

Before Christmas :—

Friday, 2nd September, 1892, 4 to 6 p.m. Matriculation and Supplemental Examinations—Faculty Rooms, Fraser Institute.
Saturday, 26th November, 1892, 3 to 5 p.m. On Preliminary Course on Obligations—The Dean.
Tuesday, 13th December, 1892, 4 to 6 p.m. On Legal History and Bibliography—Prof. McGoun.
Wednesday, 14th December, 1892, 4 to 6 p.m. On Civil Procedure—Prof. Fortin.
Thursday, 15th December, 1892, 4 to 6 p.m. On Roman Law—The Dean.
Friday, 16th December, 1892, 4 to 6 p.m. On Contracts—Prof. Geoffrion.
Saturday, 17th December, 1892, 3 to 5 p.m. On Merchant Shipping—Prof. Davidson.

After Christmas :—

Saturday, 11th February, 1893, 3 to 5 p.m. Real Estate—Prof. Wurtele.
Saturday, 25th February, 1893, 3 to 5 p.m. Criminal Law—The Dean.
Saturday, 18th March, 1893, 3 to 5 p.m. On Civil Law (Privileges and Hypothecs)—Prof. Lafleur.
Tuesday, 18th April, 1893, 4 to 6 p.m. On Constitutional Law—The Dean.
Wednesday, 19th April, 1893, 4 to 6 p.m. On Civil Law (Lease & Hire)—Prof. Doherty.
Thursday, 20th April, 1893, 4 to 6 p.m. On Commercial Law (Evidence)—Prof. Archibald.
Friday, 21st April, 1893, 4 to 6 p.m. On Law of Carriers—Prof. Abbott.
Saturday, 22nd April, 1893, 3 to 5 p.m. On Notarial Law—Prof. Marler.

MEETINGS OF FACULTY.

In the Faculty Rooms, Fraser Institute, at 3 P.M.

Friday 2nd, Monday 5th September, 1892.
Monday 3rd October 1892
" 7th November "
" 12th December "
" 9th January, 1893
" 6th February "
" 6th March "
" 10th April "
" 24th " "
" 5th June "

ERQUIREMENTS FOR THE DEGREE OF DOCTOR OF CIVIL LAW.

Every Candidate for the Degree of D.C.L. in Course must be a Bachelor of Civil Law of twelve years' standing, and must pass such examination for the Degree of D.C.L. as shall be prescribed by the Faculty of Luw. He shall also, at least two months before proceeding to the Degree, deliver to the Faculty twenty-five printed copies of a Thesis or Treatise of his own composition on some subject selected or approved by the Faculty, such Thesis to contain not less than fifty octavo pages of printed matter, and to possess such degree of merit as shall in the opinion of the Faculty justify them in recommending him for the degree.

The Candidate shall also pay to the Secretary of the Faculty, annually during the period of twelve years, for the retention of his name on the books of the Faculty, a fee of two dollars, to form part of the Library Fund of the Faculty. Upon cause shown, however, and with the consent of the Faculty, such fees may be paid at one time before the granting of the degree.

The subjects and authors required and the times of examinations may be ascertained on application to the Secretary of the Faculty.

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FACULTY OF LAW—TIME TABLE, 1892-93.

I. MONDAY, 5th September, to FRIDAY, 30th Sept., 4 weeks.

HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
8.30 to 9.30 a.m.	Prof. McGoun.		Prof. McGoun.		
4 to 5 p.m.	Prof Fortin.	Prof. Fortin.	Prof. Fortin.	Prof. Fortin.	Prof. Fortin.
5 to 6 p.m.	The Dean.	The Dean.	The Dean.	The Dean.	The Dean.

II. MONDAY, 3rd October, to FRIDAY, 4th November, 5 weeks.

8.30 to 9.30 a.m.	Prof. McGoun.		Prof. McGoun.		
4 to 5 p.m.	The Dean.	Prof. Fortin.	The Dean.	Prof. Fortin.	The Dean.
5 to 6 p.m.	Prof. Archibald.	Prof. Geoffrion.	Prof. Archibald.	Prof. Geoffrion.	Prof. Archibald.

III. MONDAY, 7th November, to FRIDAY, 9th December, 5 weeks.

4 to 5 p.m.	Prof. Fortin.	The Dean.	Prof. Fortin.	The Dean.	Prof. Fortin.
5 to 6 p.m.	Prof. McGoun.	Prof. Archibald.	Prof. McGoun.	Prof. Archibald.	The Dean.

IV. MONDAY, 2nd January, to FRIDAY, 3rd February, 5 weeks.

8.30 to 9.30 a.m		Prof. Doherty.		Prof. Doherty.	
4 to 5 p.m.	The Dean.		The Dean.		The Dean.
5 to 6 p.m.	Prof. Lafleur.	Prof. Wurtele.	Prof. Lafleur.	Prof. Wurtele.	Prof. Lafleur.

V. MONDAY, 6th February, to FRIDAY, 9th March, 5 weeks.

8.30 to 9.30 a.m.		Prof. Doherty.		Prof. Doherty.	
4 to 5 p.m.	The Dean.	Prof. Davidson.	The Dean.	Prof. Davidson.	The Dean.
5 to 6 p.m.	Prof. Abbott.	Prof. Lafleur.	Prof. Abbott.	Prof. Lafleur.	Prof. Abbott.

VI. MONDAY, 12th March, to FRIDAY, 13th April, 5 weeks.

8.30 to 9.30 a.m.		Prof. Doherty.		Prof. Doherty.	
4 to 5 p.m.	Prof. Davidson.	The Dean.	Prof. Davidson.	The Dean	Prof. Davidson.
5 to 6 p.m.	Prof. Marler.	Prof. Abbott.	Prof. Marler.	Prof. Abbott.	The Dean.

APPENDIX.

The attention of intending Students is called to the following provisions of the Revised Statutes of Quebec, and amendments, as bearing on the requirements for the study and practice of Law in the Province :—

ARTICLE 3544 R. S. Q.—Examinations for admission to study and to practise law in the Province of Quebec are held at the time and place determined by the General Council.

The places and dates as at present fixed are

MONTREAL, - Wednesday, 11th Jan., 1893,
QUEBEC, - - Wednesday, 5th July, 1893,

and alternately at Montreal and Quebec every six months, namely—at Montreal on the second Wednesday of each January, and at Quebec on the first Wednesday of each July.

All information concerning these examinations can be obtained from the General Secretary's Office. The present General Secretary is W. C. Languedoc, Esq., Quebec.

ARTICLE 3546.—Candidates must give notice as prescribed by this Article at least one month before the time fixed for the examination, to the Secretary of the Section in which he resides, or in which he has resided for the last six months.

The present Secretary of the Montreal Section is Mr. Charles Lanctot, 1608 Notre Dame street, Montreal.

ARTICLE 3503a.—Added by Statute of Quebec, 53 Victoria (1890), Cap. 45, provides that Candidates holding the diploma of Bachelor of Arts, Bachelier-es-Lettres, or Bachelier-es-Science from a Canadian or other British University, is dispensed from the examination for admission to study. Such Candidates are however recommended to give the notice required as above.

ARTICLE 3548 R. S. Q. (as altered by by-law of the General Council).—On giving the notice prescribed by Article 3546, the Candidate pays to the Secretary a fee of $2.00, and makes a deposit of $30.00, for admission to study, or of $70.00 for admission to practice, which deposit, less $10.00, is returned in case of his not being admitted.

ARTICLE 3552.—To be admitted to practice, the Student must be a British subject, and must have studied regularly and without interruption during ordinary office hours, under indentures before a Notary, as Clerk or Student, with a practising Advocate, during Five Years, *dating from the registration of the certificate of admission to study*. This term is reduced to Four years in this case of student who has followed a regular law course in a University or College in this Province, and taken a degree in law therein.

Faculty of Comparative Medicine and Veterinary Science.

THE PRINCIPAL (Ex-officio).

Professors :

MCEACHRAN (D.), BAKER, MCEACHRAN (C.).

Associate Professors :

GIRDWOOD, MILLS,
WILKINS, BLACKADER.
PENHALLOW,

Dean of the Faculty :—D. MCEACHRAN, D.V.S.
Secretary :—C. MCEACHRAN, D.V.S.

The Fourth Session of the Faculty (being the twenty-seventh of the Montreal Veterinary College) will be opened on Tuesday, the 4th October, 1892, by an introductory lecture, at 8 p.m., in the lecture-room of the Faculty, No. 6 Union Avenue. The regular course of lectures will begin on Wednesday, 5th October, at the hours named in the time-table, and will continue till the end of March.

The Montreal Veterinary College was inaugurated in 1866. A course of lectures on Veterinary Science was delivered during the winter, in connection with the Medical Faculty, in a lecture-room on Cotté street. The suggestion, being made by the late Major Campbell, who was president of the Board of Agriculture, was warmly supported by the late Dean, Dr. George Campbell, the Principal, Sir William Dawson, and the Professors of the Institutes of Medicine, Chemistry and Botany, who became directly interested in the progress of the school.

In 1875 the growth of the school was such as to necessitate a special establishment, and the present buildings were erected at the expense of the Principal, D. McEachran, F.R.C.V.S.

During the past year considerable improvements have been made.

The complete course of study in this Faculty extends over three years. Graduates of recognized Medical Colleges are allowed to

present themseves for examination after regular attendance on one full course; graduates of recognized Agricultural Colleges, where Veterinary Science constitutes a branch of study, after regular attendance for two full courses.

Allowances will be made to Students of Human or Comparative Medicine, or others who can produce certified class tickets for attendance on any of the subjects embraced in the curriculum from any recognized college or university.

Graduates and Students who avail themselves of the above privileges will nevertheless be required to pass an examination in the subjects comprised in the three years' course, unless, from satisfactory evidence otherwise produced, the examiners consider it to be unnecessary.

Graduates of recognized Veterinary Colleges, desirous of taking the degree, may do so by attendance on the final subjects for one full session, but will be required to pass the examinations on all the subjects embraced in the curriculum, botany excepted.

Occasional and Agricultural Students will be received without matriculation for attendance on any particular series of lectures. Such Students will not be examined, nor will they be entitled to receive class certificates, except as Occasional Students, nor will such attendance be accepted, should the Student subsequently wish to become a regular Student of the Faculty.

MATRICULATION.

Every Student, previous to his admission, must produce a certificate of educational acquirements satisfactory to the Faculty, or submit himself to an examination in writing, reading aloud, dictation, arithmetic (including vulgar fractions), English grammar (as a text-book, Miller's Swinton's Language Lessons). It will be seen that this examination is far from severe; yet it affords a certain guarantee that illiterate men will not be admitted.

A. N. Shewan, M.A., will hold the matriculation examination on Wednesday, 30th September, at 9 o'clock, at the College, 6 Union Avenue, when all those intending to enter the course should present themselves for examination. Candidates possessing certificates of education or of previous matriculation should produce them for the inspection and approval of the examiner. Graduates of any Faculty in a recognized University or Agricultural College are not required to matriculate.

No College is recognized unless its Students are required to matriculate.

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REGISTRATION AND PAYMENT OF FEES.

The following are the College regulations:—

All Students desirous of attending the classes shall, at the commencement of each session, enrol their names and residences in the register of the Faculty, and procure from the Registrar a ticket of registration, for which each Student shall pay a fee of $5.

The said register shall be closed on the last day of October in each year. The fees are payable to the Registrar, and all class tickets will be issued by him and must be paid in advance (except under special circumstances) at the time of registration.

All Students must register, including those who receive free bursaries.

Fees for the whole course are $180, which may be paid in three annual payments of $60 each, which, in all cases, must be paid on entering. Matriculation fee, $5, which is to be paid prior to the examination; $5 for registration, and $5 for re-registration, payable at the beginning of each of the following two Sessions, and $20 on receiving the diploma. Students who are allowed time for previous study will be required to pay full fees. Payments must be made in all cases as above.

STUDENTS OF THE PROVINCE OF QUEBEC.

In consideration of the annual grant, the Council of Agriculture has the privilege of sending thirteen pupils, free of expense, to the whole course; such students must, however, pay a fee of five dollars for the course in Botany and five dollars annually for registration. These Bursaries may be obtained by young men resident in the Province of Quebec, by application made to the Dean of the Faculty, in handwriting of applicant, accompanied by a recommendation from the Agricultural Society of the district in which they reside, provided the Council considers them qualified by education and in other respects for entering the College.

In all cases, except when specially arranged, Bursars will be required to give a guarantee that they will attend three Sessions; and failing to do so, they shall be required to pay the fees for the Sessions which they have attended.

GENERAL REGULATIONS.

Students of this Faculty will be graded as of the First, the Second, and the Final Years.

In each year Students will take the studies fixed for that year only, unless by special permission of the Faculty.

Persons desirous of entering as Occasional Students shall apply to the Dean of the Faculty for admission as such, and shall obtain a ticket or tickets for the class or classes they desire to attend.

All Students shall be subject to the following regulations as regards attendance and conduct :—

A class-book shall be kept by each Professor and Lecturer, in which the presence or absence of Students shall be carefully noted ; and the said class book shall be submitted to the Faculty at a meeting to be held between the close of the lectures and the commencement of the examinations ; and the Faculty shall, after examination of such class-book, decide which Students shall be deemed to have been sufficiently regular in their attendanee to entitle them to proceed to the examination in the respective classes.

Punctual attendance on all classes proper to his year is required of each Student. Absence or tardiness without sufficient excuse, or inattention or disorder in the class room, if persisted in after admonition by the Professor, will be reported to the Dean of the Faculty, who may reprimand the Student, or report to the Faculty, as he may decide. While in the building, or going to or from it, Students are expected to conduct themselves in the same orderly manner as in the class-rooms. Any Professor observing improper conduct in the class-rooms or elsewhere in the building will admonish the Student, and, if necessary, report him to the Dean.

When Students are reported to the Faculty under the above rules, the Faculty may reprimand, report to parents or guardians, disqualify from competing for prizes or honors, suspend from classes, or report to the Corporation for expulsion.

Any Student injuring the furniture or building will be required to repair the same at his own expense, and will, in addition, be subject to such penalty as the Faculty may see fit to impose.

All cases of discipline involving the interests of more than one Faculty, or of the University generally, shall be reported to the Principal, or, in his absence, to the Vice-Principal.

The College year shall be divided into two terms, the first extending to the Christmas vacation, and the second from the expiration of the Christmas vacation to the 30th March following.

Each lecture shall be of one hour's duration, but the Professors shall have the right to substitute an examination for any such lecture.

At the end of each term there shall be a general examination of all the classes, under the superintendence of the Professors and such other examiners as may be appointed by the Corporation. The results shall be reported as early as possible to the Faculty.

The Students have all the privileges of the McGill Medical Faculty's Laboratories, which are thus described in their annual calendar :—

PHYSIOLOGICAL LABORATORY.

The Physiological Laboratory is supplied with the most modern apparatus for the practical teaching of this most important branch of the medical curriculum. It contains, amongst other valuable instruments : kymographs, various manometers, etc., for demonstrating blood pressure ; myographs, rheocords, moist

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chambers, etc., and various electrical appliances for demonstrating experiments in connection with nerve and muscle; special apparatus for illustrating various points in respiration; apparatus specially suitable for demonstrating the processes of digestion, as well as the chemical composition and nature of the secretions, and the chief constituents of the tissues and nutritive fluids. The Laboratory is arranged in such a way as to permit of Students assisting at, and taking part in, these demonstrations. During the past session important additions of apparatus have been made to the Physiological Laboratory.

CHEMICAL LABORATORY.

The Chemical Laboratory is large, lofty, and well lighted, and can accommodate comfortably 76 men at one time. Each Student, when entering on this course, has a numbered table in the Laboratory assigned to him for his use during the session. Each table has its own gas and water fixtures, and is provided with shelves for its corresponding set of reagent bottles, as well as a drawer and locker containing a modern set of chemical apparatus specially adapted for the work. This apparatus is provided by the Professor of Chemistry, and supplied to each Student without extra charge. The Student is required to pay only for apparatus broken or destroyed.

The Laboratory is furnished with a large draught closet for ventilation, sulphuretted hydrogen apparatus, gas and combustion furnaces, etc., giving to the Student unsurpassed advantages for acquiring a sound and practical knowledge of medical chemistry.

PATHOLOGICAL LABORATORY.

In the Pathological Laboratory, accommodation will be provided for Students or practitioners who desire to carry on advanced study or private pathological research, upon their obtaining permission from the Faculty.

The Laboratory has been entirely rebuilt during the past session, and is well stocked with the usual apparatus for pathological and bacteriological work.

The demonstrations in Morbid Anatomy will be given in a small laboratory, specially arranged for the work.

The classes in Pathological Histology will be held in the Histological Laboratory.

HISTOLOGICAL LABORATORY.

The Histological Laboratory is a large, well-lighted room. It is so arranged that over eighty Students can be present at the microscopical demonstrations. For this purpose it is supplied with thirty-five microscopes, all from the well known makers, Zeiss, Hartnack and Leitz. From the large number of microscopes employed, Students will have special facilities in studying and making themselves thoroughly acquainted with the specimens that are the subjects of demonstration

PRACTICAL MICROSCOPY.

This is an entirely optional course, in charge of Prof. Wilkins. It is intended especially for teaching the technique of Microscopy. Students will be shown how to examine blood, etc., fresh specimens and morbid products, also to cut, stain, and mount specimens. For this purpose they will have furnished them both normal and diseased structures, with which they will be able to secure a cabinet of at least 100 specimens, which will be of great benefit when in practice. Reagents and everything except cover-glasses and cabinet cases provided. Fee $8.

COURSES OF LECTURES.

BOTANY.

D. P. PENHALLOW.

The purpose of this course is to give Students a good grounding in the principles of General Morphology, to advance their knowledge of the Comparative Physiology of animals and plants, and enable them to determine readily such species of plants as may come under their observation. It comprises :—

1. A course of lectures on General Morphology and Classification, Histology and Physiology. The lectures are illustrated by means of the microscope, and by the models and large collections in the Peter Redpath Museum.

2. Practical work in the determination and classification of Species, for which the Botanic Garden of the University offers special facilities.

3. Studies in Canadian Botany. This work is prosecuted by means of field-excursions, which are held as often as opportunity is afforded during the autumn months

4. A special collection of medicinal plants, now being formed at the Gardens, offers a valuable preparation in the course of Pharmacology.

ZOOLOGY.*

SIR WILLIAM DAWSON.

This course includes a systematic study of the classification of animals, illustrated by Canadian examples and by the collections in the Peter Redpath Museum. It affords suitable preparation for collecting in any department of Canadian Zoology or Palæontology, and as an introduction to Comparative Physiology. It may be taken instead of Botany, or along with it, without any additional fee.

Students in Botany or Zoology will receive tickets to the Peter Redpath Museum and to the Museum of the Natural History Society of Montreal.

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* Students may take either Botany or Zoology, but must intimate at the beginning of the session their choice, and adhere to this, except by special permission of the Faculty.

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CHEMISTRY.

GILBERT P. GIRDWOOD, M.D.

Inorganic Chemistry is fully treated; a large portion of the course is devoted to Organic Chemistry and its relations to Medicine. The branches of Physics bearing upon or connected with Chemistry also engage the attention of the Class. For experimental illustration, abundant apparatus is possessed by the College.

The Chemical Laboratory will be open to members of the Class, to repeat experiments performed during the course, under the superintendence of the Professor or his Assistant.

PHYSIOLOGY.

WESLEY MILLS, M.D.

The purpose of this course is to make Students thoroughly acquainted, as far as time permits, with modern Physiology: its methods, its deductions, and the basis on which the latter rest. Accordingly, a full course of lectures is given, in which both the Experimental and Chemical departments of the subject receive attention.

In addition to the use of diagrams, plates, models, etc., every department of the subject is experimentally illustrated. The experiments are free from elaborate *technique*, and many of them are of a kind susceptible of ready imitation by the Student.

Laboratory work for Senior Students:—

(1) During the first part of the Session there will be a course on Physiological Chemistry, in which the Student will, under direction, investigate food-stuffs, digestive action, blood, and the more important secretions and excretions, including urine. All the apparatus and material for this course will be provided.

(2) The remainder of the session will be devoted to the performance of such experiments as are unsuitable for demonstration to a large class in the lecture room, and such as require the use of elaborate methods, apparatus, etc.

HISTOLOGY.

GEO. WILKINS, M.D.

This will consist of a course of ten lectures and twenty-five weekly demonstrations with the Microscope. As the demonstrations will be chiefly relied upon for teaching the Microscopic Anatomy of the various structures, the specimens under observation will then be minutely described. Plates and diagrams specially prepared for these lectures will be freely made use of.

COMPARATIVE PATHOLOGY.

Besides lectures and demonstrations in General Pathology and Morbid Anatomy, the Students will perform autopsies under the direction of the teacher. The experimental study of contagious and parasitic diseases will receive special attention.

MEDICINE AND SURGERY.

D. McEachran, F.R.C.V.S.

This course is intended for Students of the second and third years only.

The course embraces the principles and practice of Veterinary Medicine, including the diseases of domestic animals, their nature, causes, symptoms, and treatment. It necessarily includes Pathology and Pathological Anatomy, with daily clinical demonstrations in the hospital and yard practice of the College, as well as illustrations from plates, preserved specimens, and fresh material furnished by the Pathologist.

The course on Surgery embraces Surgical Anatomy and Practices of Surgery, and will be illustrated by a large collection of surgical appliances, about to be added to the College material for the illustration of lectures.

The large and varied practice of the College furnishes abundance of cases for demonstration purposes.

Special lectures will be given on Sanitary Science, Quarantine, inspection of meat and milk, and also on the examination of horses for soundness.

ANATOMY.

M. C. Baker, D.V.S.

In this course the Anatomy of the horse is the subject of special study; while the structural differences of all the domestic animals are carefully explained and illustrated by fresh subjects. There is a very large collection of classic anatomical models by Dr. Auzoux, of Paris, natural injections and dissections, and a most complete collection of diagrams, including Marshall's complete set, Mons. Achille Comte's Anatomical and Zoological series, also a large collection of drawings, specially prepared for the school by Mr. Scott Leighton, artist, Boston, and Mr. Hawksett, Montreal.

The Dissecting Room is open at all hours, subjects are easily procured, and either the Professor or Demonstrator will be in attendance to superintend and direct Students in practical dissection. The room is furnished with every convenience, is thoroughly lighted, and affords Students all that can be reasonably desired. Students are required to pay for material necessary for practical dissection. Before a Student can be allowed to present himself for his pass examinations, he must produce tickets certified by the Demonstrator that he has dissected two entire subjects, that is, one each session.

MATERIA MEDICA.

Alex. D. Blackader, B.A., M.D.

This course comprises:—

A description of the Pharmacology and Therapeutics of the more important medicinal agents, as well as a special course on the properties, preparation,

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physiological and therapeutic actions of all the medicines used in Veterinary practice.

Students are also required to do practical work, in compoun ding and administering medicines in the pharmacy and hospital.

CATTLE PATHOLOGY AND OBSTETRICS.

C. McEachran, D.V.S.

A special course on Cattle Diseases and Veterinary Obstetrics will be delivered, embracing the history of Cattle Plagues; their nature, symptoms, pathological anatomy, prophylactic and therapeutic treatment; breeding and general management of breeding animals; diseases incident to gestation and parturition, etc.

SPECIAL COURSE ON DOGS.

Professor Wesley Mills will give a special course on Dogs, which will include:—

(1) Lectures on the psychic and physic characteristics of all the leading varieties, illustrated by specimens from his own kennels and other sources, as well as by plates, etc.

(2) The principles of training; the feeding and general management of dogs.

(3) The principles of breeding; the management of brood bitches and the rearing of puppies.

(4) Bench show management and the public judging of dogs.

(5) The rights and duties of dog owners.

In all the above courses the clinical and pathological aspects of the subjects will be considered, as well as the normal.

SPECIAL COURSE ON STOCK-BREEDING.

Professor D. McEachran will during the session deliver a special course of lectures on the Breeds of Horses, Cattle, Sheep and Swine, embracing their breeding and management on farms and on the prairies. This course will also embrace inspection aud transportation of animals by railroad and steamer, subjects of general information of great value to Practitioners of Comparative Medicine.

The above special courses are free to all Students.

THE MUSEUM

contains a large collection of natural and artificial specimens, consisting of skeletons of almost all the domestic animals, numerous specimens of diseased bones, preparations by Dr. Auzoux of all the different organs in the body, natural dissections, colored models, diagrams, etc., etc., all of which are used in illustrating the lectures, and to which the Students have frequent opportunities of

referring. There has been recently added a large and valuable private Museum, presented to the Faculty by J. W. Gadsden, M.R.C.V.S., of Philadelphia, Penna., U.S.

THE PHARMACY.

All the medicines used in the practice of the College are compounded by the Students, under the direction of the Professors, from prescriptions for each particular case, and most of them are administered or applied by them. For this purpose they are detailed for certain pharmaceutical duties alternately. By this means they become familiar with the physical properties, compatibilities, doses and uses of the medicines, and become expert in administering them to the different patients brought for treatment.

THE PRACTICE.

The Hospital and Daily Clinics, as well as a very extensive out-door practice, including most of the largest stables in the city and numerous farms in the vicinity, afford excellent opportunities for clinical observation on horses of all breeds and ages. Owing to the numbers of cattle kept in the city, and the valuable thoroughbred herds in the neighborhood, advanced Students are enabled to see and do considerable cattle practice. The dog practice is the largest in Canada. All canine diseases can be studied clinically, owing to the large number of dogs brought to the College for medical or surgical treatment.

Senior Students will be appointed to act alternately as dressers in the Hospital, and First and Second Year men must assist in administering medicines and at operations.

FREE CLINICS.

To afford the Students still more extensive opportunities of clinical observation, an hour a day will be given to free clinics for animals belonging to the poor, which will be duly advertised.

TEXT-BOOKS.*

The following text-books are recommended :—

Anatomy.—Chauveau's Comparative Anatomy; Strangeway's Veterinary Anatomy; McFadeyan's Veterinary Anatomy.

Physiology.—Huxley's Elementary Lessons; Prof. Mills' Text-Book of Animal Physiology; Outlines of Lectures, by the same author.

Histology.—Klein's Elements; Schæfer's Essentials of Histology.

Botany.—Gray's Structural Botany; Bessey's Botany.

Zoology.—Dawson's Handbook of Canadian Zoology.

Chemistry.—Millar; Wurtz's Elementary Chemistry; Armstrong.

*Students are advised not to buy text-books extensively till after consultation with the Professor who teaches the subject.

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Medicine and Surgery.—Williams' Principles and Practice of Veterinary Medicine; Fleming's Sanitary Science and Police; Fleming's Surgery.

Materia Medica.—Dun's Veterinary Medicines; Walley's Veterinary Conspectus; Tuson's Pharmacy.

Cattle Diseases.—Steel's Bovine Pathology; Clatter's Cattle Doctor (Armitage); Fleming's Veterinary Obstetrics.

Canine Diseases.—Woodroof-Hill; Mills.

Entozoa.—Cobbold's Entozoa of Domestic Animals.

Pathology.—Delafield and Prudden's Pathology and Morbid Anatomy.

BOARD AND TRAVELLING EXPENSES.

Board can be obtained at from $15 to $20 per month.

By the kindness of the Railway Companies, certified Students of the College will be granted return tickets from Montreal to any part of their lines, at greatly reduced rates, the said tickets to hold good from the close of one session to the beginning of the next.

Return tickets will also be granted for the Christmas vacation.

VETERINARY MEDICAL ASSOCIATION.

This Association is for the mutual improvement of its members.

The members are Graduates and Students of comparative medicine, also Graduates and Students of Human Medicine.

The meetings are held fortnightly, at which papers are read and discussed, cases reported, etc.

The advantages which Students derive from these meetings are very great. Not only do they hear carefully prepared papers on subjects of professional importance, but an opportunity is afforded for practising public speaking, which in after-life is often extremely useful. The fees of the Association are expended in the purchase of books for the Library and the prizes awarded for papers read.

The Library is owned by the Association, and is under the control of officers who are elected annually. It contains nearly 600 volumes, embracing works of great antiquity as well as the modern works on Veterinary Science and collateral subjects in both the English and French languages, all of which are available for consultation and study by members.

Every Student is expected to become a member. The entrance fee is $5, and the yearly subscription $2.50.

ASSOCIATION FOR THE STUDY OF COMPARATIVE PSYCHOLOGY.

This Society is similar in constitution to the Veterinary Medical Association.

Its object is the study of the Psychic Phenomena (intelligence, etc.) of all classes of animals and the diffusion of sounder views on this subject.

Naturally, it is of great importance in the practice of medicine upon dumb animals, as well as of peculiar scientific interest.

QUALIFICATIONS FOR THE DEGREE.

Candidates for the Final Examination shall furnish testimonials of attendance on lectures on the following subjects :—

Either Botany or Zoology, Histology,	One course of six months, 1st year.
Chemistry, Physiology, Anatomy,	Two courses of six months, 1st and 2nd years.
Cattle Diseases and Obstetrics, Practice of Medicine and Surgery, Materia Medica,	Two courses, 2nd and 3rd year.

No one will be permitted to become a candidate for examination who shall not have attended at least one full course of lectures in this Faculty, including all the subjects embraced in the curriculum.

Courses of less length than the above will be received only for the time over which they have extended.

Students, except by special permission of the Faculty, must pursue the subjects of Anatomy, Chemistry, Histology and Botany in their first session, and are advised to take Physiology in addition.

Candidates who fail to pass in not more than two subjects of the first two years may be granted a supplemental examination at the beginning of the following session.

Supplemental examinations will not be granted, except by special permission of the Faculty, and on written application, stating reasons.

Candidates who fail to pass in a subject of which two courses are required may, at the discretion of the Faculty, be required to attend a third course, and furnish a certificate of attendance thereon.

In addition to the written and oral examinations, Candidates must pass a practical clinical test, including examination of horses for soundness, written reports being required ; the clinical reports to include diagnosis, prognosis and treatment.

The following oath or affirmation will be exacted from the Candidate before receiving the degree :—

DECLARATION OF GRADUATES IN COMPARATIVE MEDICINE AND VETERINARY SCIENCE.

I,————, promise and solemnly declare that I will, with my best endeavors, be careful to maintain the interests of this University, and that, to the best of my ability, I will promote its honor and dignity.

EXAMINATIONS.

First Year.—Pass Examination in Botany or Zoology, and Histology, and sessional examinations on other subjects in the course of the year.

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Second Year.—Pass Examination in Chemistry, Physiology, Practical Histology and Anatomy, in addtion to Sessional Examinations.

Third Year.—Pass Examination in Practice of Medicine and Surgery and Veterinary Obstetrics, and Diseases of Cattle and Materia Medica.

N.B.—Sessional Examinations will be held from time to time during the session, and attendance at these is compulsory, and the standing attained at the examinations will be taken into account at the pass examinations.

AGE FOR GRADUATION.

Students under seventeen will be received as apprentices, but cannot be entered as regular students before attaining that age.

Minors may pass the examinations, but cannot receive the Diploma until they are twenty-one years of age.

HINTS TO STUDENTS.

The Matriculation Examination which you have to undergo is by no means a severe one; and if you are not prepared to pass it, you should begin at once to improve your education.

You had better not commence professional reading till you have become familiar with the fundamental subjects. Practice, except under the guidance of a thoroughly educated practitioner, is more likely to mislead than aid you.

It is advisable that you should arrive in Montreal before the opening day, so as to give you time to procure suitable lodgings. Endeavor by all means to be present at the introductory lectures on all subjects; you cannot miss one lecture without thereby losing valuable preparatory information. Come prepared to procure at once the necessary text books and note books. Make your arrangements so as to enable you to devote your entire time and undivided attention to your studies, as the three sessions which the curriculum covers will be found none too long to accomplish the necessary proficiency in the various branches of study required of you.

NOTICE TO GRADUATES.

For the purpose of increasing pathological material for the classes, Graduates are earnestly requested to send any interesting or obscure pathological specimens which may be met with in their practice to the Pathologist at the Veterinary College, No. 6 Union Avenue. The specimens may be sent C. O. D. by express, and will in all cases be acknowleged. A report upon the nature of the specimen will be sent if desired; and the specimens, when of sufficient interest, will be preserved in the Museum with the names of the donors affixed.

McGill Normal School.

The McGill Normal School in the city of Montreal is established chiefly for the purpose of training teachers for the Protestant population, or for all religious denominations of the Province of Quebec other than the Roman Catholic. The studies in this school are carried on chiefly in English, but French is also taught.

Government of the School.

The Corporation of McGill University is associated with the Superintendent of Public Instruction in the direction of the McGill Normal School, under the regulations of the Protestant Committee of the Council of Public Instruction, and it is authorized to appoint a standing committee consisting of five members, called "The Normal School Committee," which shall have the general supervision of the affairs of the Normal School. The following members of the Corporation of the University constitute the committee of the Normal School for the Session of 1892-93.

NORMAL SCHOOL COMMITTEE.

Sir Wm. Dawson, C.M.G., LL.D., F.R.S., Vice-Chancellor of the University, *Chairman*.

Mr. Samuel Finley,
Mr. George Hague, } Governors of McGill College.

Rev. George Cornish, LL.D.,
J. R. Dougall, M.A., } Fellows of McGill University.

J. W. Brakenridge, B.C.L., *Acting Secretary*.

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OFFICERS OF INSTRUCTION.

McGILL NORMAL SCHOOL.

SAMPSON PAUL ROBINS, M.A., LL.D., *Principal and Ordinary Professor of Mathematics, and Lecturer on Art of Teaching.*

ABNER W. KNEELAND, M.A., *Ordinary Professor of English Language and Literature.*

MADAME SOPHIE CORNU, *Professor of French.*

MISS GREEN, *Professor of Drawing.*

MR. R. J. FOWLER, *Instructor in Music.*

LILIAN B. ROBINS, B.A., *Assistant to the Principal, and Instructor in Classics.*

MR. W. H. SMITH, *Instructor in Tonic Sol-Fa.*

MR. JNO. P. STEPHEN, *Instructor in Elocution.*

MODEL SCHOOLS OF THE McGILL NORMAL SCHOOL

ORRIN REXFORD, B.Sc., *Head Master of Boys' School.*

MISS———, *Head Mistress of Girls' School.*

MISS LUCY H. DERICK, *Head Mistress of Primary School.*

ANNOUNCEMENT FOR THE SESSION 1892-93.

This Institution is intended to give a thorough training to teachers, by instruction and training in the Normal School itself, and by practice in the Model Schools; and the arrangements are of such a character as to afford the greatest possible facilities to Students from all parts of the Province.

The thirty-seventh session of this School will commence on the first of September, 1892, and close on the thirty-first of May, 1893. The complete course of study extends over four years, and the Students are graded as follows :—

1.—*Elementary School Class.*—Studying for the Elementary School Diploma.

2.—*Model School Class.*—Studying for the Model School Diploma.

3.—*Academy Class.*—Studying for the Academy Diploma.

All the following regulations and privileges apply to male and female students alike.

I. TERMS OF ADMISSION.

(Extracted from the Regulations of the Protestant Committee of the Council of Public Instruction.)

Any British subject who produces a certificate of good moral character from the minister of the congregation to which he belongs, and evidence to show that he has completed the sixteenth year of his age, may be admitted to examination for entrance into the Elementary School Class, or, if he has completed his seventeenth year, to the entrance examinations of the Model School Class. (*See Note a.*)

Previous to admission to the Elementary School Class, every pupil-teacher shall undergo an examination as to his sufficient knowledge of reading, writing, the rudiments of grammar in his own language, geography, and arithmetic; before admission to the Model School Class he must give proof of his knowledge of the subjects of the previous year. Except as stated below, the examination shall take place before the Principal, or before such other person as he may specially appoint for the purpose. (*See Note b.*)

All candidates who present certificates of having passed in Grade III. Model School Course, and all holders of Elementary School diplomas, shall be exempt from examination for admission to the Elementary School Class. All candidates who have passed at the A.A. examinations, taking two-thirds of the aggregate marks, and who have passed in French, and all holders of Model School diplomas, shall be exempt from examination for admission to the Model School Class. Holders of Elementary School diplomas, desiring admission to the Model School Class, shall be examined in Algebra, Geometry and French only.

Candidates shall be admitted to examination for entrance only at the times regularly appointed by the Principal of the school at the beginning of the session. Candidates exempt from examination can only be admitted during the first week of the session, except that teachers who may be actually engaged in teaching at the commencement of the session may, at the discretion of the Principal, be admitted to the Elementary School Class not later than the close of the Christmas vacation. No teacher-in-training admitted later than the 1st of October shall share in that part of the bursary fund which is distributed at Christmas.

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In exceptional cases the Principal of the Normal School may admit to the classes on trial persons whose qualifications may be insufficient for entrance. Such persons may be excluded from the School by the Principal whenever he may judge it best so to do ; but none shall be permitted to enter o to remain on trial after the semi-sessional examinations.

No candidate is admitted to the Normal School until the provisions of the school laws respecting admission have been fulfilled. (*See Note c.*)

II. PRIVILEGES OF TEACHERS-IN-TRAINING.

All teachers-in-training are entitled to free tuition.

At the close of the semi-sessional examinations, the sum of $400 from the bursary fund will be divided among the forty most successful pupils who do not reside at home with parents or guardians during their attendance at the school. Similarly the sum of $800 will be divided at the close of the sessional examinations. The remainder of the bursary fund will be divided as an allowance for travelling expenses among teachers-in-training residing in the Province of Quebec at a distance of more than ninety miles from Montreal, in a proportion determined by the excess of distance above ninety miles, it being provided that no allowance for travelling expenses shall exceed ten dollars.

All teachers-in-training who pass the semi-sessional examinations in the Normal School with 60 per cent. of the total marks, and who have not fallen below 50 per cent. in any one of the groups of subjects, English, Mathematics, French, and Miscellaneous, nor in any one of the subjects required by the Syllabus of Examination prescribed for diplomas of the grade to which they aspire, shall be entitled to continue in their classes after Christmas. Except by the special permission of the Principal, none other shall be entitled to this privilege nor to a share in the Christmas bursary.

All teachers-in-training, who attain the standards defined above at the final examinations in the Normal School, shall be entitled to diplomas of the grade of the class to which they belong, and except with the concurrence of the Principal of the school and the professor of each subject in which there has been failure, none others shall receive diplomas or share in the bursary fund.

All holders of Elementary School diplomas obtained by reaching

the standards defined above shall be entitled to admission to the Model School Class, none others without the special permission of the Principal. Such holders of Elementary School diplomas as have taken not less than 75 per cent. of the total marks, nor less than 60 per cent. of those in any subject essential to the diploma, according to the Syllabus of Examination of the Protestant Committee of the Council of Public Instruction, shall be entitled to admission among the "selected students" mentioned in the following paragraph, but others may be so admitted by the Principal. (*See Note d.*)

III. STUDENTS FOR THE ACADEMY DIPLOMA.

1. The Normal School shall bring up selected students at the end of the Model School year to the examinations for the entrance into the first year of the Faculty of Arts of the Universities. They may be examined either at the examinations for the Associate in Arts in June or at those for the matriculation in autumn, and shall take the full course of study in the first and second years.

2. Such students shall be enrolled in the Normal School as students of the Academy Class, and shall be under the usual pledge to teach for three years. They shall engage in the practice of teaching at such times and in such schools as may be arranged by the Principal from time to time, in consistence with their college work, and shall be under the Principal and the regulations of the Normal School.

3. On report of the colleges which such students may be attending, that they have passed creditably in the Christmas and sessional examinations respectively, they shall be entitled to bursaries, not exceeding thirty dollars per session, in aid of fees and board. Such bursaries may be paid by the Normal School Committee out of any fund available for the purpose.

4. On passing the intermediate, or equivalent, examination of the Universities, such students will be entitled to receive Academy diplomas, in accordance with the regulations of the Protestant Committee of the Council of Public Instruction for such diplomas.

5. Such students may, with the advice of the Principal, attend classes at McGill or its affiliated colleges, or at Bishop's College, and the Normal School Committee shall make such arrangements as may be possible for free tuition at such colleges.

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6. It shall be competent to the Principal of the Normal School to provide any tutorial assistance that may in his judgment be necessary for Academy students. Also, it shall be his duty in the case of optional studies to select for the students those required for the curriculum of the Normal School.

7. It shall be competent to students who have taken Academy diplomas as above to continue for two years longer at the University, or to return thereto, after teaching for a time, in order to take the degree of Bachelor of Arts; but they shall be held bound to fulfill their engagements to teach, and they shall not be entitled to bursaries. (*See Note e.*)

Holders of Model School Diplomas of the McGill Normal School, who are certified by the Principal of the Normal School to have taken 75 per cent. of the total marks at their final examinations, with not less than 60 per cent. of the marks in Mathematics, French, Latin and Greek respectively, shall be admitted without further examination to the first year in Arts of the McGill University; but all such Students must make good their standing in the University at the Christmas examinations.

Teachers-in-training, who do not attain the standard defined above, must, in order to enter the University, pass the usual examination for Matriculation.

Exemption from the payment of fees in McGill College for the first year will be granted to the three holders of Model School Diplomas, not being resident in Montreal, who, of all those entering the University on the conditions stated above, have gained the highest aggregate of marks at their final examinations in the Normal School, as certified by the Principal of the Normal School.

Exemption from fees in the second year will be granted to the three students entering from the Normal School, who, with creditable standing in all their examinations at the close of the first year in Arts have taken the highest aggregate of marks of any Normal School Students of their year.

IV. CONDITIONS OF CONTINUANCE IN THE NORMAL SCHOOL

Teachers-in-training guilty of drunkenness, of frequenting taverns, of entering disorderly houses or gambling houses, keeping company with disorderly persons, or committing any act of immorality or insubordination, shall be expelled. (*See Note c.*)

Each professor shall have the power of excluding from his lectures any Student who may be inattentive to his studies, or guilty of any minor infraction of the regulations, until the matter can be reported to the Principal.

V. ATTENDANCE ON RELIGIOUS INSTRUCTION.

Teachers-in-training will be required to state with what religious denomination they are connected; and a list of the students connected with each denomination shall be furnished to one of the ministers of such denomination resident in Montreal, with the request that he will meet weekly with that portion of the teachers-in-training, or otherwise provide for their religious instruction. Every Thursday after four o'clock will be assigned for this purpose.

In addition to punctual attendance at weekly religious instruction each student will be required to attend public worship at his own church, at least once every Sunday.

VI. BOARDING HOUSES.

1. The teachers-in-training shall state the place of their residence, and those who cannot reside with their parents will be permitted to live in boarding houses, but in such only as shall be specially approved of. No boarding houses having permission to board male teachers-in-training will be permitted to receive female teachers-in-training as boarders, and *vice versa*. (*See Note g.*)

2. They are on no account to be absent from their lodgings after half-past nine o'clock in the evening.

3. They will be allowed to attend such lectures and public meetings only as may be considered by the Principal conducive to their moral and mental improvement.

4. A copy of the regulations shall be sent to all keepers of lodging houses at the beginning of the session.

5. In case of lodgings being chosen by parents or guardians, a written statement of the parent or guardian shall be presented to the Principal.

6. All intended changes of lodgings shall be made known beforehand to the Principal or to one of the professors.

7. Boarding-houses shall be visited monthly by a committee of professors.

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8. Special visitations shall be made in case of sickness being reported, either by professors or by ladies connected with the school; and, if necessary, medical attendance shall be procured.

9. Students and lodging house keepers are required to report, as soon as possible, all cases of serious illness and all infractions of rules touching boarding houses.

VII. ACADEMY DIPLOMAS TO GRADUATES.

Granted under the Regulations of the Protestant Committee of the Council of Public Instruction.

Graduates in Arts from any British or Canadian University, who have passed in Latin, Greek and French in the Degree Examinations, or who have taken at least second class standing in these subjects at their Intermediate Examinations, shall be entitled to receive first class Academy diplomas, provided that they have also taken a regular course in the Art of Teaching at the McGill Normal School, or other public training institution outside the Province approved by the Protestant Committee.

Graduates who have not passed in French, as prescribed above, may, on application, be examined in that subject before the Principal of the McGill Normal School, and, if satisfactory, such examination shall be accepted in lieu of the prescribed standing in French in the University examinations.

To meet the requirements of Graduates and Undergraduates in Arts, who, not having previously taken a Normal School course, desire to receive Academy diplomas of the first class under regulation 54, provision has been made for the delivery of a course of forty lectures on Pedagogy in the Normal School and for practice in teaching in the McGill Model School for forty half days, open to Graduates in Arts of any British or Canadian University, to Undergraduates of the third year, and, with the permission of the Faculty and the concurrence of the Principal of the Normal School, to those of the four year.

Undergraduates will be permitted to teach the forty half days referred to above, at times extending over the sessions of the Model School, corresponding to the third and fourth years of their college course. Graduates will be permitted to teach in the Model Schools at such times as may be agreed on with the Principal.

All persons taking this course of study in the Normal School shall be held to be subject to the regulations of the said school, and to be under the supervision of its Principal while in attendance thereat.

Graduates who have taken the above course of study in Pedagogy, and the first class Academy diploma, may be entered, if so desired by them, in the published lists of the University as holders of such diplomas.

Undergraduates who hold Model School diplomas in course from the McGill Normal School, who take at least second class standing in Latin and Greek in the Intermediate Examination of the Universities, shall be entitled to receive first class Academy diplomas.

Teachers who hold (*a*) Academy diplomas granted before the first July, 1886, or (*b*) second class Academy diplomas granted under these regulations, and who produce satisfactory proof to the Protestant Committee that they have taught successfully for at least ten years, shall, when recommended by the Committee, be entitled to receive first class Academy diplomas.

Any candidate who presents to the Principal of the McGill Normal School, (*a*) the requisite certificates of age and of good moral character, according to Form No. 1 (page 12), and (*b*) satisfactory certificates that he has complied with either of the foregoing regulations, shall be recommended by him to the Superintendent of Public Instruction for an Academy diploma of the class to which he is entitled under these regulations.

FORM OF CERTIFICATE OF CHARACTER TO BE SUBMITTED BY CANDIDATES FOR ACADEMY DIPLOMAS.

"This is to certify that I, the undersigned, have personally known and had opportunity of observing ..... for the ..... last past; that during all such time *his* life and conduct have been without reproach; and I affirm that I believe *him* to be an upright, conscientious, and strictly sober *man*."

This certificate must be signed by the Minister of the Congregation to which the Candidate belongs, and by two School Commissioners, or Trustees, or Visitors.

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VIII. NOTES ON THE PRECEDING REGULATIONS.

Chiefly extracted from the By-Laws of the McGill Normal School.

(*a*) On application to the Principal of the School, candidates for admission will be furnished with forms of application, containing the required forms of certificate of good character and of agreement to teach for three years in some Public School in the Province of Quebec.

(*b*) Teachers-in-training admitted to the Elementary School class at the beginning of a session must be able to parse correctly a simple English sentence; to write a neat dictation from any school reader, with no more than five per cent. of mistakes in spelling, in the use of capitals, and in the division of words into syllables; to give the names and state the positions of the continents, of the oceans, of the greater islands, peninsulas, capes, mountains, gulfs, bays, straits, lakes, and rivers, and of the chief political divisions and most important cities of the world; and to work correctly examples in the simple rules of arithmetic and in fractions.

(*c*) Teachers-in-training are expected to give their whole time and attention to the work of the school, and are not permitted to engage in any other course of study or business during the session of the school.

There shall be no intercourse between male and female teachers-in-training while in school or when going to or returning from it. Teachers of one sex are strictly prohibited from visiting those of the other.

Teachers-in-training who leave the Normal School in the middle of a session are expected to assign to the Principal satisfactory reasons, accompanied, in case of failure of health, by medical certificates.

(*d*) The J. C. Wilson prize of forty dollars and a book, annually chosen by the donor, shall be given to that teacher-in-training of the Elementary School class who passes for a diploma, and takes the highest aggregate of marks at the final examination of the year.

The Prince of Wales' medal and prize shall be given to that teacher-in-training of the Model School class who passes for the diploma, and takes the highest aggregate of marks at the final examintion of the year.

The Lord Stanley silver medal shall be given to that teacher-in-training of the Academy class, who at the University Intermediate Examinations has passed for a diploma with the highest aggregate of marks. If in any year there are teachers-in-training in two Universities, the Principal of the Normal School, in view of the examinations set, and of the number of marks reported for each examination, shall determine to whom this medal shall be awarded.

(*e*) In order to be recognized as teachers-in training for the Academy diploma, Students who have fulfilled the conditions stated in the regulations of the Protestant Committee of the Council of Public Instruction, must apply at the beginning of each collegiate year to the Principal of the Normal School for enrolment, and fo· certificates of enrolment to be prented to the Dean of the Faculty of Arts.

Having entered college, they must report to the Principal of the Normal School from time to time, as he may require, and must furnish him with certificates of having successfully passed their several examinations, without which certificates, signed by the Dean of the Faculty or his representative, no bursaries shall be paid.

(*f*) The date of the examination of graduates in Arts for Academy diplomas shall be the 20th day of May, or the school day next succeeding that date; the hours shall be from 10 a.m. to 12 noon.

(*g*) No boarding house is attached to the institution, but every care will be taken to ensure the comfort and good conduct of the Students in private boarding houses approved by the Principal, who will furnish lists to applicants for admission. Board can be obtained at from $12 to $16 per month.

IX. COURSE OF STUDY.

N.B.—The subjoined Course of Study has been designed, and all instruction in it is given, with express reference to the work of teaching.

1. ELEMENTARY SCHOOL CLASS, STUDYING FOR THE ELEMENTARY SCHOOL DIPLOMA.

With the view of accommodating teachers actually in charge of schools at the commencement of the Session, and whose previous education may enable them to enter at a more advanced period, the course of study in this class is divided into terms as follows :—

FIRST TERM, from September 1st to December 3rd.

(*Entrance Examination as stated above.*)

English.—The structure of sentences. Orthography and orthoepy. Penmanship. The study of Milton's L'Allegro, and the Sermon on the Mount, Matt. V, VI and VII.

Geography.—General view of continents and oceans. North and South America. Eléments de Géographie moderne.

History.—Outline of general history. Histoire du Canada, en français.

Arithmetic.—Simple and compound rules.

Algebra.—The elementary rules.

Geometry.—Elementary notions.

French.—Darey's Principes de Grammaire Française to page 50, with verbs of first conjugation. Méthode naturelle.

Botany.—High School Botany, Spotten.

Chemistry.—Lectures.

Reading and Elocution.

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Drawing.—Elements, simple outlines and map drawing.

Music.—Vocal music with part songs. Junior Certificate of Tonic Sol-Fa College.

Art of Teaching.—Lectures on school organization and discipline, and on methods of teaching particular subjects.

SECOND TERM, January 6th to end of Session.

(No pupils will be received after the commencement of this term. Those who enter must pass the examination of the class in the work detailed above.

English.—Structure of words and sentences. Etymology, derivation and syntax. Study of Macaulay's Essay on Milton and of Goldsmith's Deserted Village.

Geography.—Contour, elevations, river systems, political divisions and chief cities of the Old World.

History.—Sacred. Histoire du Canada continuée.

Arithmetic.—Fractions, Decimals, Proportion, Interest, Properties of numbers, Mensuration.

Book-keeping.—Single Entry.

Algebra.—Simple equations of one unknown quantity with problems.

Geometry.—First book of Euclid, with deductions.

Art of Teaching.—Lectures continued.

French.—Principes de Grammaire Française, page 100, with verbs regular and irregular. Méthode naturelle.

Botany.—High School Botany, Spotten.

Physiology and Hygiene.—Lectures.

Reading and Elocution.

Drawing.—Freehand drawing from the solid, and elements of perspective.

Music.—Elements of vocal music and part songs. Elementary Certificate of Tonic Sol-Fa College.

Practice in Teaching in the McGill Model Schools, as directed by the Principal.

Religious Instruction will be given throughout the Session.

In addition to the text-books named above, each Student of the Elementary School Class must be provided with an English Grammar, an Atlas of recent date, an Arithmetic, an Algebra, and a Euclid.

2. MODEL SCHOOL CLASS, STUDYING FOR THE MODEL SCHOOL DIPLOMA.

Students entering the school in this second year must have passed a satisfactory examination in the subjects of the Elementary School Class. The Class will pursue its studies throughout the Session, without division into terms.

English.—Principles of grammar and composition. Style. History of the English language. Study of Shakespeare's Tempest, Scott's Lady of the Lake, Tennyson's Lotus Eaters.

Geography.—Mathematical and physical. Use of the globes.

History.—Rome, England.

Art of Teaching.—Lectures on school organization and discipline, and on methods of teaching particular subjects.

Arithmetic.—Commercial arithmetic. Logarithms.

Book-keeping.—Double entry.

Algebra.—Equations of more than one unknown quantity, and quadratics.

Geometry.—Second, third and fourth books of Euclid, with application to mensuration.

Object Lessons.

Latin.—Grammar, Cæsar, Gallic War, Book I.

French.—Translation from French into English, and from English into French, Darey's Principes de Grammaire. Eléments de Littérature française, Lectures françaises, Méthode Berlitz, Histoire de France.

Agricultural Science.—Principles, especially chemical and botanical, and application to Canadian agriculture.

Elocution.

Drawing.—Elements of perspective, drawing from the cast and map drawing.

Music.—Instrumental music, part songs and rudiments of harmony. Intermediate Certificate of Tonic Sol-Fa College.

Practice in Teaching.—In the McGill Model Schools, as directed by the Principal.

Religious Instruction throughout the Session.

Such Students as, from their conspicuous ability and preparation, may be selected to enter the Academy Class of the Normal School, will, in addition to the work given above, read Xenophon, Anabasis, Book I., and Virgil, Æneid, Book I., with special attention to Greek and Latin Grammar.

Other Students of exceptional ability may, with the consent of the Principal and the Professors of the several subjects, choose one of the following courses of extra study :—

(*a*) Mathematics: trigonometry and mechanics.

(*b*) French : classiques françaises, composition, et grammaire.

(*c*) Drawing : water-color.

(*d*) Music : violin.

In addition to the text-books named above, each Student of the Model School Class must be provided with an English Grammar, a History of England. a History of Rome, an Arithmetic, an Algebra, a Euclid, and Dawson's Scientific Agriculture.

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3. ACADEMY CLASS, STUDYING FOR THE ACADEMY DIPLOMA.

These students will follow for two years the course of McGill University or of one of its affiliated colleges, or that of Bishop's College, Lennoxville; being enrolled on the books of the Normal School, and receiving a bursary from the Normal School, not exceeding $30 per annum, and such tutorial assistance as may be deemed necessary. Such Students must take in their courses such options only as are approved by the Principal of the Normal School.

The course for the current year in McGill College, for first year Students, is :—

Greek.—Homer, Iliad, Book XXII. Xenophon, Hellenics, Book I. Studies in History and Literature.

Latin.—Cicero, De Amicitia. Virgil, Æneid, Bks. XI and XII.—Translation at sight. Studies in History and Literature. Latin Prose Composition.

Mathematics.—Arithmetic. Euclid, six books. Algebra to end of Quadratic Equations. Plane Trigonometry, in part.

English Language and Literature.—First term. Milton's Comus and Bacon's Essays (selected). Two lectures a week. English composition, one lecture a week. Second term.—English Literature, previous to Elizabethan Period.

Chemistry.—Lectures, chiefly on Elementary and Inorganic Chemistry, with Experiments in the Class-room and Laboratory work, if desired; the whole preparatory to the course in Natural Science.

French.—Darey, Principes de Grammaire française. LaFontaine, Choix de Fables. Molière, L'Avare. Dictation; Colloquial exercises.

The course for second year Students is :—

Greek.—Plato, Apology. Xenophon, Memorabilia. Bk. I., Chaps. I. and II. History of Greece.

Latin.—Horace, Epistles, Bk. I., 1, 2 and 6. Livy, Bk. XXII. Translation at sight, and Latin Prose Composition.

Mathematics.—Arithmetic, Euclid, Algebra and Trigonometry as before. Logarithms. Plane Trigonometry, including solution of triangles and applications.

Mathematical Physics.—Mechanics, one lecture a week.

English Literature.—A period of English Literature and one play of Shakspere. During the session of 1892-93 : The leading poets of the nineteenth century. Shakspere, A Midsummer Night's Dream. [Clarendon Press Edition.]

Psychology and Logic.—First Term, Elementary Psychology (*Text-Book :* Murray's Handbook of Psychology, Book I). Second Term, Logic (*Text-Book :*—Jevon's Elementary Lessons in Logic).

Botany.—General Morphology and Classification. Descriptive Botany. Flora of Canada. Nutrition and reproduction of plants. Elements of Histology. *Text-Books:*—Gray's Structural Botany. Penhallow's Classification. Penhallow's Guide to the Classification of Plants. Gray's Manual.

French.—Ponsard, l'Honneur et l'Argent. Racine, Esther. Contanseau, Précis de Littérature Française depuis son origine jusqu'à la fin du XVIIIe siècle. Translation into French :—Dr. Johnson, Rasselas. Dictation. Parsing. Colloquial exercises.

The course in Bishop's College for the current year is :—

Greek.—Euripides, Hecuba, Homer, Odyssey IX. and X.

Latin.—Virgil, Georgic IV. ; Sallust, Jugurtha.

English.—Rhetoric and Grammatical Analysis, with a course of Lectures on English Literature.

History.—Greek and Roman.

French.—Translation, Grammar and Composition.

Mathematics.—Euclid, Books I., II., III., IV., VI. and XI. Algebra to Progressions. Arithmetic.

Physics.—Balfour Stewart's Elementary.

SYLLABUS OF LECTURES ON PEDAGOGY.

(Open to Graduates and Undergraduates.)

The Legal Position of the Teacher.

1. The organization of Public Instruction in Quebec. 2. The relation of the teacher to the Department of Public Instruction and to the Protestant Committee of the Council of Public Instruction. 3. The relation of the teacher to school commissioners and parents. 4. The relation of the teacher to pupils. 5. The teacher as a member of a profession.

Discipline.

6. Discipline as a means of immediate pleasure to pupils. 7. Discipline as tending to school success. 8. Discipline as a preparation for life. 9. Discipline developing character. 10. Discipline enforced by authority.

Instruction in Special Subjects.

11. English reading, writing, grammar. 12. Literature, composition. 13. French. 14. The classics. 15. Number; arithmetic and algebra. 16. Form;

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geometry. Number and form; trigonometry and mensuration. 17. Geography and history. 18. Botany and chemistry. 19. Drawing and music. 20. The acquisition of general knowledge.

PHYSICAL DEVELOPMENT.

21. Health. 22. Growth. 23. The training of the eye. 24. The training of the ear. 25. The training of the hand.

MENTAL DEVELOPMENT.

26. The training of the analytic faculty. 27. Observation and experiment. 28. The training of the synthetic faculty. 29. Understanding, 30. Judgment and reason. 31. Invention. 32. Imagination. 33. Memory of sensations. 34. Memory of conceptions. 35. Verbal memory.

MORAL DEVELOPMENT.

36. Training in truthfulness. 37. In justice and purity. 38. In philanthropy and patriotism. 39. In earnestness. 40. In good manners.

MODEL SCHOOLS OF THE McGILL NORMAL SCHOOL.

Boys' School—Orrin Rexford, B.Sc., *Head Master.*

Elizabeth Reid, } *Assistants.*

Girls' School, Mary J. Peebles, *Acting Head Mistress.*

Selina Sloan, } *Assistants.*

Primary School.—Lucy H. Derick, *Head Mistress.*
Annie L. Woodington, *Assistant.*

These Schools can accommodate about 300 pupils, are supplied with the last furniture and apparatus, and conducted on the most modern methods of teaching. They receive pupils from the age of six and upwards, and give a thorough English education. Fees: Boys' and Girls' Model Schools, $1.00 to $1.50 per month; Primary School, 75c.; payable monthly in advance.

University School Examinations.

1893.

FOR CERTIFICATES OF THE UNIVERSITIES AND THE TITLE OF ASSOCIATE IN ARTS.

HELD UNDER THE SUPERINTENDENCE OF McGILL UNIVERSITY, MONTREAL, AND THE UNIVERSITY OF BISHOP'S COLLEGE, LENNOXVILLE; AND RECOGNIZED BY THE PROTESTANT COMMITTEE OF THE COUNCIL OF PUBLIC INSTRUCTION.

These Examinations are held in Montreal and at Lennoxville; and local centres may be appointed elsewhere on application to the Principal of either University, accompanied with the names of satisfactory Deputy Examiners, and guarantee for the payment of necessary expenses.

The Examinations are open to Boys or Girls from any Canadian school.

PART I.—ORDINARY A.A.

SUBJECTS OF EXAMINATION,

I. PRELIMINARY SUBJECTS.

(100 marks each.)

Writing.
English Dictation.
English Grammar, including easy Analysis.
Arithmetic (all the ordinary rules, including square root and a knowledge of the Metric System).
Geography (acquaintance with the maps of each of the four continents, and of British North America).
British History and *Canadian History.*
New Testament History * (Gospels and Acts, as in Maclear).

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* Candidates will be exempted from examination in this subject only if their parents or guardians make written objection thereto.

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II. Optional Subjects.

Section 1.—Languages.

Latin :—

Caesar—Bell. Gall., Bk, I. Virgil.— Aeneid, Bk. I. Latin Grammar and Prose Composition (Collar's Practical Latin Composition, Part III, Book I., or an equivalent.)	200 marks.

Greek :—

Xenophon.—Anabasis, Bk, I. Homer.—Iliad, Bk. IV. Greek Grammar.	200 marks.

French:—

Grammar and Dictation. Darey's Lectures Françaises (selected extracts). Re-translation, English into French.	100 marks.

German :—

Grammar, Adler's Reader, Sections I. and II. Translation from German into English	100 do

Section 2.—Mathematics.

Geometry.—

Euclid, I., II., III., with easy Deductions,..... 100 do

Algebra :—

Elementary Rules, Involution, Evolution, Fractions, Indices, Surds, Simple and Quadratic Equations of one or more unknown quantities.	100 do

Plane Trigonometry.

(As in Hamblin Smith, pp. 1-100, omitting Ch. XI). 100 do

Section 3.—English.

The English Language :—

Meiklejohn's English Language, Pts. I., II., III. Trench's Study of words.	100 do

English Literature:—

Meiklejohn's English Language, Pt. IV. Shakspere, Julius Caesar. Scott's Lady of the Lake.	100 do

History.—(As in Primers of Greece and Rome, and Collier's Great Events) ..... 100 do

Geography.—Physical, Political and Commercial ..... 100 do

Section 4—Natural and Physical Sciences, etc.

Zoology (as in Nicholson's Introductory Text Book) ..... 100 do

*Botany** (as in Spotton's High School Botany, with Penhallow's Guide to the Collection of Plants, and Blanks for Plant Descriptions† ..... 100 do

Chemistry (as in Remsen's Elements of Chemistry, pp. 1 to 160) 100 do

Physiology and Hygiene (as in Cutter's Intermediate) ..... 100 do

Physics (as in Gage and Fessenden's High School Physics, Chapters I., II., III.) ..... 100 do

Geometrical and Freehand Drawing ..... 100 do

Geometrical.—Vere Foster R1 and R2, also problems 119 to 129 of R3.

Freehand.—Rules of Perspective, Drawing from the object (as in the Dominion Freehand Drawing books, numbers 1 to 5, inclusive).

REGULATIONS.

1. To obtain the Certificate of Associate in Arts, Candidates must pass in all the Preliminary subjects, and also in any six of the Optional subjects, provided that the six include one subject at least from each of the four Sections.

2. In addition to the six Optional subjects selected for passing, Candidates may take other Optional subjects, but the total possible number of marks obtainable in all the Optional subjects chosen must not exceed 1100.

3. Candidates will not be considered as having passed in any subject, unless they have obtained at least 34 per cent. of the total number of marks obtainable in that subject ‡

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* In connection with the Botany examination, marks will be given for collections of mounted specimens made in accordance with Penhallow's Guide to the Collection of Plants. The Head Teacher of each school will forward with the answers a specimen from each pupil's collection, and also (on a furnished form) a detailed statement as to the collections made. Not more than 50 speciments will be expected to constitute a collection, and marks may be allowed *pro rata* for fewer.

† These Blanks may be obtained from booksellers in Montreal or elsewhere.

‡ When (*e. g.*, in History, English Language, etc.) two or more books or subjects are prescribed for one examination it is necessary to pass in each. Candidates will not be allowed to pass in the Preliminary Grammar, unless they show a satisfactory knowledge of Syntax (Parsing, Analysis, and questions connected therewith). In Classics, at least one-third of the marks allotted to grammar must be obtained.

4. The total number of Marks gained by every Candidate in the Optional subjects shall be added up, and the Candidates arranged in order of merit in a printed list, at the close of the Examination, those who are over 18 years of age on the first day of June being in a separate list. The marks in any subject shall not be counted if the Candidate has obtained less than 34 per cent. in that subject.

5. Candidates who obtain at least 67 per cent. of the marks in any Optional subject shall be considered as having answered creditably in that subject, and special mention of the same will be made in the Associate in Arts Certificate.

6. Candidates who pass in the subjects of the University Matriculation Examinations may, without further examination, enter the Faculties of Arts and Applied Science.

7. Candidates who fail, or who may be prevented by illness from completing their examination, may come up at the next examination without extra fee.

8. Candidates who pass in all the Preliminary subjects may *at the next examination* take the Optional subjects only, and without extra fee.

9. The Head Master or Mistress of each school must certify to the character and ages of the pupils sent up for examination.

10. The examinations will begin on Thursday, June 1st, at 9 a.m.

11. Lists of the names, ages, and Optional subjects to be taken by the Candidates, together with the fee of $4 for each Candidate, must be transmitted to the Secretary, McGill University, Montreal, on or before May 1st. (Blank forms and copies of the regulations will be furnished on application.)

Extracts from Darey's Lectures Françaises, for the examination of 1893.

Extracts beginning on pp. 10, 13, 15, 20, 32, 33, 37, 42, 47, 51, 56, 63, 68, 74, 76, 85, 87, 92, 94, 99, 103, 110, 118, 125, 129, 133, 144, 149, 151, 156, 158, 162, 166, 169, 176, 179, 182, 196, 215.

NOTE 1.—No fees will be exacted for the examination of pupils of Academies under the control of the Protestant Committee; but in order to obtain the certificate from the Universities, the prescribed fee, viz., $4.00, must be paid to the Secretary of the University Examiners.

Candidates who pass Grade II. of the Academy Course of Study will, *in the following year*, be exempted from the Preliminary Subjects of the A. A. Examination.

The complete regulations of the Protestant Committee of the Council of Public Instruction with reference to these examinations may be obtained on application to the English Secretary, Department of Public Instruction, Quebec.

NOTE 2.—MATRICULATION SUBJECTS REFERRED TO IN REG. 6.

In Arts.—Greek, Latin, Geometry, Algebra, Arithmetic, English Dictation, English Grammar, British History. (Women may substitute French for Greek.)

In Applied Science.—Geometry, Algebra, Trigonometry, Arithmetic, English Dictation, English Grammar.

After entrance in Arts or Applied Science, French or German must be studied. In the former subject an entrance examination is required, but may be passed either in June or in September; Candidates who are unable to pass must study German after entrance. Women who omit Greek must pass the entrance examination in French, and afterwards study both French and German.

[Matriculation Examinations are also held at the opening of the University Session in September. See Calendars of the Universities.]

PART II.—ADVANCED A.A.

SUBJECTS OF EXAMINATION.

I. Preliminary Subjects.

As under Part I.

II. Optional Subjects.

Section 1.—Languages.

Latin :—

Virgil.—Aeneid, I.
Cicero.—In Catilinam, I. and II.
Grammar, Prose Composition (Collar's Practical Latin Composition, Parts III. and IV.), and Translation at sight from Caesar and Nepos.

Greek :—

Xenophon.—Anabasis, I and II.
Homer.—Iliad, IV., and Odyssey, VII.
Grammar and Prose Composition (Abbott's Arnold's Greek Prose Composition, Exercises 1 to 25).

French :—

Lamartine, Jeanne d'Arc.
Molière, Le Bourgeois gentilhomme.
Translation at sight from French into English, and from English into French.
Grammar and Dictation.

German :—

Lessing, Emilia Galotti.
Schiller, Der Kampf mit dem Drachen.
Grammar and translation from English into German.

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Section 2.—Mathematics.

Geometry :—

Euclid, Bks. I. to IV., Defns. of Bk. V., Bk. VI.

Algebra :—

To the end of Progressions.

Trigonometry :—

As in Hamblin Smith (the whole).

Section 3.—English.

The English Language :—

Lounsbury's History of the English Language.
Mason's English Grammar.
A composition.

English Literature :—

Meiklejohn's English Language, Pt. IV.
The Elizabethan Period (Morley's First Sketch).
Milton's Paradise Lost, Bks. I. and II.

History :—

Grecian History.—The Persian and Peloponnesian Wars.
Roman History.—From the Wars of Marius and Sulla to the death of Tiberius.
English History.—The Reformation and Puritan England, as in Green's Short History.

Section 4.—Natural and Physical Science, etc.

Botany.—Gray's Text-Book.

General Morphology and Classification, Determination of Canadian species, exclusive of Thallophytes. Distribution of Orders represented in Canada.

Credit will be given for collections of plants as under Part I.

Chemistry.—Inorganic, as in Remsen's Elements.

Also, an examination in Practical Work (to be held only in Montreal and at Lennoxville).

Physics.—As in Gage and Fessenden's High School Physics.

Also, an examination in Practical Work (to be held only in Montreal and at Lennoxville).

Drawing.—Orthographic Projection, including Simple Penetrations, Developments and Sections, as in Davidson's Orthographic Projection.

REGULATIONS.

The Regulations of Part I., with the following modifications and additions, will apply to the advanced subjects :—

1. Candidates who pass in six of the advanced subjects (including one at least from each of the four Sections) will receive an Advanced A. A. certificate. The number of marks given to each subject will be the same as in Part I., and additional advanced subjects may be taken as in Reg. 2, Part I.

2. Candidates who fail in one or more of the subjects required for the advanced A. A. may, on the recommendation of the Examiners, be given an ordinary A.A. certificate.

3. The examinations in the advanced subjects will be held at the same time and in the same manner as those in the ordinary subjects. They will be open to all who have already passed in the preliminary subjects, whether they have taken the ordinary A. A. or not. The preliminary subjects must be taken either one or two years before the advanced subjects.

4. Candidates who pass the advanced examinations in Greek, Latin, Geometry, Algebra, and English Language* shall be considered as having passed the Higher Matriculation Examination of the First year in Arts, McGill University.

5. Candidates must, before May 1st, give notice of intention to present themselves for the examination, specifying the optional subjects in which they wish to be examined.

6. The ordinary fee of $4.00 must be paid before taking the preliminary subjects, and an additional fee of $10.00 at the time of making application for the advanced examinations †

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* French as in Part I, Note 2.

† Candidates from Academies under the control of the Protestant Committee of the Council of Public Instruction are exempt from the former fee, but not from the latter.

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School Examinations.

STANDING IN THE EXAMINATIONS, 1892.

ADVANCED ASSOCIATE IN ARTS.

No.		Marks.
360.	Lucy Redpath (Trafalgar Institute, Montreal),	706

ASSOCIATES IN ARTS.

I. Under 18 years of age.

No.		Marks.
29.	Elizabeth A. Hammond (High School, Montreal),	926
48.	Wilfred G. G. Cole (Collegiate Institute, Montreal),	919
35.	Winifred A. Locke (High School, Montreal),	876
59.	Grace Henderson (Misses Symmers and Smith's School, Montreal),	855
3.	Albert Laurie (High School, Montreal),	847
41.	Amy W. Nichols (High School, Montreal),	842
70.	Hans J. Schwartz (High School, Quebec),	826
7.	Kenneth Molson (High School, Montreal),	825
68.	Peter W. Langlois (High School, Quebec),	815
43.	Winona J. Pitcher (High School, Montreal),	810
16.	Arthur P. Scott (High School, Montreal),	805
73.	William G. Turner (High School, Quebec),	791
31.	I. Ethel Hurst (High School, Montreal),	790
54.	Alexander R. Ross (Collegiate Institute, Montreal),	781
61.	Louise Smith (Misses Symmers and Smith's School),	763
38.	Mary McCuaig (High School, Montreal),	762
51.	Malcolm MacKay (Collegiate Institute, Montreal),	753
6.	Benjamin B. Mitchell (High School, Montreal),	741
9.	Clawson Rea (High School, Montreal),	734
76.	Mabel L. Hanington (Girls' High School, St. John, N.B.),	728
75.	Elizabeth S. Colwell (Girls' High School, St. John, N.B.),	723
58.	Emily Everett (Misses Symmers and Smith's School),	705
32.	Elizabeth A. Jones (High School, Montreal),	694
80.	Janet W. McRobbie (Girls' High School, St. John, N.B.),	690
8.	Wilmot M. Paterson (High School, Montreal)	
11.	Herbert Ross (High School, Montreal)	equal 689
81.	Annie L. Smith (Girls' High School, St. John, N.B.),	
50.	Edward M. Edgar (Collegiate Institute, Montreal),	687

No.		Marks.
56	Frederick R. Wainwright (Collegiate Institute, Montreal),	685
5.	Frederick L. McDunnough (High School, Montreal) } equal	681
12.	Gordon Rutherford (High School, Montreal) }	
30.	Harriet S. M. Hill (High School, Montreal),	679
104.	Frederick W. Thompson (Coaticook Academy),	676
82.	Elizabeth I. Stevenson (Girls' High School, St. John, N.B.),	669
226.	Susan M. C. Richards (Sherbrooke Girls' Academy),	655
34.	Minnie M. Laughton (High School, Montreal),	645
97.	George A. Jordan (Coaticook Academy),	630
126.	Mabel M. Watson (Cowansville Academy),	623
4.	George E. Learmonth (High School, Montreal),	620
13.	Stewart Rutherford (High School, Montreal),	619
244.	Clara E. Slack (Waterloo Academy),	617
44.	Ethel C. Shaw (High School, Montreal),	615
125.	Mabel A. Carter (Cowansville Academy),	602
24.	Annie A. Bremner (High School, Montreal),	591
243	Mildred M. Rhicard (Waterloo Academy),	585
145.	Mary Gomery (Huntingdon Academy),	583
64.	Frank W. Mills (Bishop's College School, Lennoxville),	576
111.	Charlotte Hinds (Compton Ladies' College),	575
18.	John A. Shaw (High School, Montreal),	574
110.	Rena Hall (Compton Ladies' College),	565
109.	Amy G. Fiske (Compton Ladies' College),	563
40.	Lillian F. Morris (High School, Montreal),	561
62.	John H. Acer (Bishop's College School, Lennoxville),	557
221.	Henry W. Lothrop (Sherbrooke Boys' Academy),	551
220.	Jacob Kessler (Sherbrooke Boys' Academy),	548
150.	Elizabeth Neville (Huntingdon Academy),	543
10.	William Roberts (High School, Montreal),	541
245.	Edith A. Temple (Waterloo Academy),	539
224.	Ellen Baird (Sherbrooke Girls' Academy),	536
186.	Bernard N. Simpson (Lachute Academy),	517
216.	Malcolm H. Bradford (Sherbrooke Boys' Academy),	514
1.	John Cox (High School, Montreal),	511
180.	Grace M. H. Barron (Lachute Academy),	509
60.	Louisa Heward (Misses Symmers and Smith's School),	497
202.	Charles F. Morrison (St. Francis College, Richmond),	486
27.	Agnes H. Denoon (High School, Montreal),	485
45.	Ethel F. Wilson (High School, Montreal),	477
171.	Percy C. Duboyce (Knowlton Academy),	476
107.	William Wallace (Coaticook Academy),	475
190.	Annie R. L. Westman (Marbleton Model School),	474
33.	Grace A. Kneen (High School, Montreal),	473
90.	Phoebe G. Baxter (Bedford Academy),	469

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No.			Marks.
154.	Lorne M. Arkley (Inverness Academy),		462
92.	Nelson C. Davis (Bedford Academy),		461
42.	Ethel B. Pinder (High School, Montreal),		459
103.	Leon M. Thomas (Coaticook Academy),		456
95.	Cora B. Hopkins (Coaticook Academy),		455
37.	H. Edith MacTavish (High School, Montreal),		452
39.	Maude I. McLeod (High School, Montreal),		451
210.	Ethel Wilkinson (St. John's High School),		450
28.	Elizabeth M. Gordon (High School, Montreal)	equal	442
124.	Mary Harvie (Cote St. Antoine Academy)		
235.	H. Maud Terrill (Stanstead Wesleyan College),		441
108.	Edith M. Cochrane (Compton Ladies' College)	equal	439
130.	Minnie E. Lee (Dunham Academy)		
208.	Lena P. Sargent (St. John's High School)		
137.	Nina E. Howe (Hatley Model School)		434
102.	Harriet V. Stenning (Coaticook Academy),		429
26.	Ida G. Clark (High School, Montreal)	equal	424
65.	Cyril A. Bishop (High School, Quebec)		
218.	George B. Cross (Sherbrooke Boys' Academy),		423
167.	James Sutherland (Inverness Academy),		408
91.	George E. Cornforth (Bedford Academy),		403
20.	Alexander M. Stewart (High School, Montreal)	equal	398
146.	Emma Henderson (Huntingdon Academy)		
193.	Agnes S. Whelan (Portage du Fort Model School),		367
203.	William H. Watters (St. Francis College, Richmond),		362
157.	Laura J. Forbes (Inverness Academy),		332
52.	Herbert M. Marler (Collegiate Institute, Montreal),		329
185.	Susan A. Patterson (Lachute Academy),		307

II. Over 18 *years of age.*

15.	Frank C. Saunders (High School, Montreal),		825
83.	Henrietta M. Ward (Girls' High School, St. John, N.B.),		788
230.	Flora A. Bryant (Stanstead Wesleyan College),		786
74.	Frank G. Vial (High School, Quebec),		725
199.	Katherine A. Sutherland (Girls' High School, Quebec),		686
25.	Mary E. Campbell (High School, Montreal),		676
153.	Donald Rowatt (Huntingdon Academy),		665
19.	Albert E. Smaill (High School, Montreal),		629
57.	Lizzie Bradley (Misses Symmers and Smith's School),	equal	611
142.	Clara Craik (Huntingdon Academy),		
96.	Effie M. Hunter (Coaticook Academy),		608
77.	Maud E. Hannah (Girls' High School, St. John, N.B.),		605
201.	Francis C. Smiley (St. Francis College, Richmond),		593
119.	Robert H. McRae (Cookshire Model School),		567

No.		Marks.
195.	Evelyn M. Benson (Girls' High School, Quebec),	562
23.	G. May Bell (High School, Montreal),	560
105.	Minnie C. Tomkins (Coaticook Academy),	559
84.	Annie D. Morehouse (Grammar School, Woodstock, N.B.),	558
149.	Duncan McNair (Huntingdon Academy),	553
188.	Leona N. Ives (Lennoxville Model School),	541
79.	Catherine M. Hare (Girls' High School, St. John, N.B.),	535
144.	Francis Gardner (Huntingdon Academy),	517
106.	Mary L Van Vliet (Coaticook Academy), } equal	513
120.	James McRae (Cookshire Model School), }	
117.	Abbie J. Cairns (Cookshire Model School),	509
198.	Winifred F. Judge (Girls' High School, Quebec),	501
115.	Mary L. Bowen (Cookshire Model School),	499
197.	Frances M. Gillespie (Girls' High School, Quebec),	493
161.	Alfred Johnson (Inverness Academy),	459
155.	John A. Butler (Inverness Academy), } equal	446
233.	Walter B. Tabb (Sherbrooke Boys' Academy), }	
164.	William Moore (Inverness Academy),	443
234.	Burton H. Rider (Stanstead Wesleyan College),	441
237.	Sophronia Harvey (Sutton Model School),	428
187.	Mary W. C. Walsh (Lachute Academy),	420
162.	John E. Lipsay (Inverness Academy),	414
131.	Norman P. Stinehour (Frelighsburg Model School),	405
215.	Alexander Baird (Sherbrooke Boys' Academy),	376
184.	Peter C. McGregor (Lachute Academy),	363
112.	Gertrude Ives (Compton Ladies' College),	344
113.	Alla Lawson (Compton Ladies' College),	329
147.	Anna McCoy (Huntingdon Academy),	321
151.	William Rae (Huntingdon Academy),	294
165.	David A. Simons (Inverness Academy),	286

PASSED THE PRELIMINARY SUBJECTS.

(In order of numbers).

66 69 78 248 249 250 251 252 255 257 260 261 262 263
265 267 269 270 271 272 275 277 279 282 285 291 292 293
294 300 302 303 304 305 306 307 311 318 330 331 333 337
339 341 342 344 345 346 348 349 350 351 354 355 358 359

Also 117 Academy pupils, examined at Quebec.

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McGILL UNIVERSITY, MONTREAL.

JUNE, 1892.

The following Candidates have passed the Examinations required for Entrance.

1. In Arts.

Baird, Ellen	Sherbrooke, Q
Barron, Grace M. H.,	Lachute, Q
Barry, Lily E F.,	Ottawa, O
Benson, Evelyn M.,	New Liverpool, Q
Boutelle, Mary W.,	Danville, Q
Bradford, Malcolm H.,	Sherbrooke, Q
Bradley, Lizzie,	Montreal, Q
Bryant, Flora A.,	Stanstead, Q
Cairns, Abbie J.,	Sawyerville, Q
Campbell, Mary E.,	Montreal, Q
Carter, Mabel A.,	Cowansville, Q
Colclough, Thomas A.,	Almonte, O
*Cole, Wilfred G. G.,	Montreal, Q
Colwell, Elizabeth S.,	St John, N.B.
Craik, Clara,	Huntingdon, Q
Cross, George B.,	Sherbrooke, Q
* Edgar, Edward M.,	Montreal, Q
Everett, Emily,	Montreal, Q
Fiske, Amy G.,	Coaticook, Q
Fitzgerald, Gerald,	Bridgenorth, O
Friedlander, Abraham,	Montreal, Q
Frost, Isabella F.,	Waterloo, Q
Gillespie, Frances M.,	Quebec, Q
Goldsmith Perry G.,	Peterboro, O
Gomery, Mary,	Huntingdon, Q
Gordon, Alfred,	Alberton, P.E.I
Hall, Rena,	Island Pond, Vt.
Halpenny, E. W.,	Carlton Place, O
Hammond, Elizabeth A.,	Montreal, Q
Hanington, Mabel L.,	St. John, N.B
Hanran, Maggie,	Inverness, Q
Harvey, Sophronia,	Abercorn, Q
Henderson, Grace,	Montreal, Q
Hill, Harriet S. M.,	Montreal, Q
Hinds, Charlotte,	Acton, Q
Hopkins, Cora B.,	Coaticook, Q
Howe, Nina E.,	Hatley, Q
Howell, Archibald R.,	Montreal, Q
Hudson, Harvey,	Chelsea, Q
Hunter, Effie M.,	Dixville, Q
Hurst, I. Ethel,	Montreal, Q
Ives, Leona M.,	Lennoxville, Q
Jones, Elizabeth A.,	Montreal, Q
Judge, Winifred F.,	Quebec, Q
Kelly, John K.,	Almonte, O
Knowlton, Mary R.,	Knowlton, Q
*Langlois, Peter W.,	Quebec, Q
Laughton, Minnie M.,	Montreal, Q
Learmonth, George E.,	Montreal, Q
Locke, Winifred A.,	Montreal, Q
Lothrop, Henry W.,	Sherbrooke, Q
MacCarter, James M.,	Almonte, O
McCuaig, Mary,	Montreal, Q
McGillvray, Archie,	Vancouver, B.C
*MacKay, Malcolm,	Montreal, Q
McLaren, Arthur,	Lancaster, O
McLaren, Peter S., jr.,	Tiverton, O
McLaren, Robert W.,	St. Raphaels, O
McLennan, Randolph,	Williamstown, O
*McRae, Robert H.,	Cookshire, Q
McRobbie, Janet W.,	St John, N.B
*McNair, Duncan,	Huntingdon, Q
McWilliam, Bessie V. J.,	Quebec, Q
Molson, Kenneth,	Montreal, Q
Moore, William,	Lachute, Q
Morrison, Charles F.,	Melbourne, Q
Murray, Herbert G.,	Owen Sound, O
Neville, Elizabeth,	Huntingdon, Q
Nichols, Amy W.,	Montreal, Q
Pitcher, Winona J.,	Montreal, Q
Ponsset, William C.,	Peterboro, O
Redpath, Lucy,	Montreal, Q
Rhicard, Mildred M.,	Waterloo, Q
Richards, Susan M. C.,	Sherbrooke, Q
*Ross, Alex. R.,	Montreal, Q
Ross, Herbert,	Montreal, Q
Saunders, Frank C.,	Montreal, Q
*Schwartz, Hans J.,	Quebec, Q
Scott, Arthur P.,	Montreal, Q
Scott, William,	Owen Sound, O
Shaw, Ethel C.,	Montreal, Q
Slack, Clara E.,	Waterloo, Q
Smiley, Francis C,	St Lambert, Q
Smith, Annie L.,	St John, N.B
Smith Louise,	Montreal, Q
Smith, R. A.,	Durham, O
Stevenson, Elizabeth I.,	St John, N.B
Sutherland, James,	Inverness, Q
Sutherland, John,	Carlton Place, O
Sutherland, Katherine A.,	Quebec, Q
Temple, Edith A.,	Warden, Q
Terrill, H. Maud,	Stanstead, Q
Thompson, Jas. A.,	Kinnear's Mills, Q
*Turner, William G.,	Quebec, Q
Van Vliet, Mary L.,	Lacolle, Q
Vial, Frank G.,	Quebec, Q
*Wainwright, Fred. R.,	Montreal, Q
Ward, Henrietta M.,	St John, N.B
Watters, Wm. H.,	Lynn, Mass.
Watson, Mabel M.,	Cowansville, Q
Watt, Robert G.,	Lanark, O
Westman, Annie R. L.,	Marbleton, Q
Wilkinson, Ethel,	St Johns, Q

*Also in Applied Science.

II. In Applied Science.

Alley, Gordon T.,	Charlottetown, P.E.I
Anglin, Robt. W.,	Kingston, O
Baker, Frank L.,	Kingston, O
Bayfield, H. A.,	Charlottetown, P.E.I
Burges, Jas. A. S.,	Brockville, O
Cunningham, A. A.,	Huntingdon, Q
Ewing, Robt. D.,	Cobourg, O
Ferguson, Thos.,	Peterboro, O
Fowler, Clarence P.,	St Catharines, O
Gardner, Francis,	Huntingdon, Q
Hare, Geo. G.,	St John, N.B
Kinghorn, Norman,	Kingston, O
Laurie, Albert,	Montreal, Q
Leach, Francis E.,	Montreal, Q
Merritt, Chas. P.,	St Catharines, O
Mitchell, Benjamin B.,	Montreal, Q
McDougall, Wm.,	Huntingdon, Q
McDunnough, Fred. L.,	Montreal, Q
Ogilvy, Wm. M.,	Cumming's Bridge, O
Paterson, Wilmot M.,	Montreal, Q
Rea, Clawson,	Montreal, Q
Roberts, William,	Montreal, Q
Ross, John K.,	Montreal, Q
Rowatt, Donald,	Huntingdon, Q
Rutherford, Gordon,	Montreal, Q
Rutherford, Stewart,	Montreal, Q
Sise, Chas. F,	Montreal, Q
Smaill, Albert E.,	Montreal, Q
Stewart, Robt. H.,	Ottawa, O
Suter, Robt. W.,	Carleton Place, O
Tanner, Arthur W.,	Ottawa, O
Thompson, Frederick W.,	Coaticook, Q
Walkem, Geo. A.,	Kingston, O
Walker, Robert J.,	Montreal, Q
Webb, W. Morton,	Petrolia, O
Wilkinson, Charles T.,	Brockville, O

NOTE.—Candidates who have failed in one or more subjects will, if they present themselves at the opening of the session in September next, be exempted from examination in those subjects in which they have obtained at least half marks.

Successful Candidates must present themselves for enregistration to the Deans of their respective Faculties before the commencement of lectures.

STANDING IN THE OPTIONAL SUBJECTS.

[The numbers correspond with those in the preceding lists. Candidates whose numbers are in parentheses are equal in standing. Those preceding a single asterisk have obtained at least two-thirds of the marks: those preceding a double asterisk, at least one-half; those following, at least one-third. The Schools and Candidates' numbers are as follows: Montreal High School (Boys), 1-22, and 248-275; Montreal High School (Girls), 23-45 and 276-316; Montreal Collegiate Institute, 46 56, and 317-343; Miss Symmers and Miss Smith's School, 57-61, and 352-357; Bishop's Coll. School, Lennoxville, 62-64; Quebec High School, 65-74; St. John, N.B., Girls' H.S., 75-83; Woodstock, N.B., Grammar School, 84; Aylmer Acad., 85-89; Bedford do, 90-92; Clarenceville do, 93-94; Coaticook do, 95-107; Compton Ladies' College, 108-114; Cookshire Model School, 115-123; Cote St. Antoine Academy, 124; Cowansville do, 125-126; Danville do, 127-129; Dunham do, 130; Frelighsburg Model School, 131; Granby Academy, 132-136; Hatley Model School, 137; Hull do, 138-141; Huntingdon Academy, 142-153; Inverness do, 154-169; Knowlton do, 170-179; Lachute do, 180-187; Lennoxville Model School, 188-189; Marbleton do, 190-191; Portage du Fort, 192-194; Quebec Girls' High School, 195-199; Richmond, St. Francis College, 200-204; St. Johns High School, 205-211; Shawville Academy, 212-214; Sherbrooke Boys' Academy, 215-223; do Girls', 224-226; Stanbridge East Model School 227-229; Stanstead Wesleyan College, 230-235; Sutton Model School, 236-240; Waterloo Academy, 241-245; Waterville Model School, 246; Windsor Mills Model School, 247; Montreal, Trafalgar Institute, 344-351 and 360; Private Tuition, 358; Montreal, Sabrevois School, 359; Gould Model School, 361.]

Latin.—(48, 230), (73, 83, 244), (15, 59, 153, 30, 16, 7, 70, (61, 75), (3, 114, 241), 35, 41, 54, 127, 81, 243, (11, 110), (180, 245), (2, 25, 37, 38, 74), 76, (31, 34, 80, 82, 135), (84, 108), 145, (40, 68), (4, 8, 58, 186), (43, 201) (55, 235), (32, 96), (23, 195), (17, 79), 232, 234), (33, 67, 137, 210), (29, 90, 125, 144, 202), (57, 126, 142, 196, 172)*, (9, 56, 199), 50, (39, 77, 167), 44, (12, 51, 111, 158), (131, 164, 198), 109, (102, 208, 220), 150, (57, 132), (168, 184, 226), (64, 105, 155), (92, 237), (13 42, 104, 107, 178, 187, 221), (233, 246), (20, 136), (62, 98, 99, 154, 224), (117, 149, 163), 218, (1, 106), (197, 216), 123, (103, 130), 120, (21, 193). (65. 171) (53, 124), 203, (134, 175), (91, 188),** (161, 190), (112, 215), 159, 162, (113, 119) 157, 95, 139, (141, 181, 196, 207, 227), 183, 128.

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Latin (Advanced). 360, 347*.

Greek (Max. 200).—48, (59, 73), (54, 70) (2, 7), 15. 16, (4, 68), 11, *55, 199, (56, 74), 64, 17**, 119, 50, (120, 150), 143, 62, 53, 195, 198, 51, 52, 47.

Greek (Max. 150).—201,* (149, 172), 203, 221,** 168, 202, (164, 167), 216, 159, 218, 223, 197.

French.—61, 59, 244, 29, 57, 35, 68, 15, 35, (58, 243), (60, 111), (48, 70, 114, 226), (73, 117), (7, 225), 156*, (16, 74, 241), 186, 150, (43, 54), 109, (18, 32, 41, 127, 230), (56, 125, 145), (9, 83, 123, 126), (2, 3, 108, 142, 143, 146, 171). 154, (8, 12, 34, 40, 115, 175), (22, 155, 158), (30, 162, 163, 210, 245), (5, 6, 97), (19, 38, 64, 75, 81, 161), (44, 80, 107, 110), (51, 82, 144),** (20, 224), (25, 96), (65, 98, 172, 201), (4, 104, 106, 120), (67, 137, 151), (92, 122, 153, 174, 199), (47, 55, 119, 149, 221), (131, 191), (27, 31, 180, 183, 188), (21, 95, 185, 190, 234, 235), (11, 45, 50, 76, 130, 182, 232), (24, 164, 192, 195), (62, 91, 99), (13, 14, 17, 118, 197, 202, 237), (10, 103, 147, 165, 168).

French (Advanced).—360,** (347, 205).

German.—29, 31, 43, 35, (24, 41), 40, 38, 26, 18, 27, 6, (22, 45), 28, 5,* 14.

German (Advanced).— 360, 347.*

Geometry.—51, 201, 9, 3, (7, 84), (12, 54), 80, 5, (13, 240), (68, 76), 15, (104, 230), 50, (105, 208), 115, (16, 83, 117, 125, 215, 232), (6, 67, 70, 75, 92, 119)* 31, (8, 58), (41, 77, 81, 156, 161, 188, 202), (11, 27, 29, 62, 241), (170, 190, 226), (10, 38, 43, 48, 90, 154, 172) (1, 2, 109, 111, 137, 153, 157, 243), 244, (64, 96, 126, 158, 168), (99, 110, 145, 163, 164, 213, 235, 245), (24, 28, 47, 79, 142, 175, 214, 225), (61, 155, 187, 224, 236, 237), (57, 171. 186, 212), 197, (4, 25, 97, 169, 198), (35, 42, 91, 122, 204), (17, 30, 59, 127),** (34, 146, 147), (73, 87, 95, 98, 121, 124, 130, 193), (18, 19), (120, 216, 361), (53, 103, 144, 203, 210, 221), (32, 65, 183, 220, 233), (37, 52, 112, 143, 189, 207), (45, 56, 102), (165, 229), (46, 195), (180, 191, 199), (82, 113, 135, 136, 149, 217, 228, 239), (55, 74, 100, 118, 177, 194), (22, 123, 151, 159, 174, 179, 227, 246), (20, 23, 36, 60, 106, 184, 218), (44, 49, 107, 150, 162, 167, 182, 185, 192, 200, 219, 222, 238).

Geometry (Advanced).—205, 347, 360 **

Algebra.—68, 51, (7, 29, 115), 15, (41, 98), (3, 8), (6, 30, 32, 149), (153, 230), (2, 10, 12, 35, 232), (5, 48, 111), 1, (38, 109, 127), 36, (47, 73, 80, 84), (9, 61, 96, 158), (31, 58), (43, 54, 91, 199), (52, 103, 202), (142, 235), (24, 110, 156, 241), 23, (44, 59, 75, 97, 107, 122, 124, 165, 167, 168, 201, 210, 224, 233, 244), (28, 76, 117, 243),* (60, 102, 126, 146, 154), (99, 163, 193), (16, 65, 104), (113, 143, 150, 174, 245), (42, 82, 90, 131), (106 237), (49, 188, 234), (108, 222), (92, 161, 190), (56, 162, 215), (45, 50, 70, 221), (13, 172, 204), (27, 57, 145, 175, 195), (14, 44, 151, 198, 207), (11, 40, 147, 180, 183,), 216,** (19, 186, 220, 226), 18, 81, 85, 112, 125, 164, 184, 212, 225), (105, 155, 189), (4, 22, 37, 74, 144), (33, 55, 77, 123, 177), (203, 209, 219, 239), 79, 208, 217), (39, 137, 157, 171, 218), (100, 197, 214, 228), 25, 67, 83), (169, 185, 229), 21, 119, 196, 361), (128, 178, 187), 26, 94, 65).

Algebra (Advanced).—347, 360.

Trigonometry.—51, 145, 48, 6, 5, 232, (3, 70, 127), 115, 19, 68, (12, 104), 8, 230, 13, 153,* 10, 50, 119, 9, 199, 54, 144, (73, 120, 142),** 56, (55, 143), 22, (149, 158), 49, 150.

English Language.—29, 43, 41, 35, 38, 61, 84, (48, 56), 32, 83, 54, (31, 50), 57, 51, 23, (37, 82), (25, 47), (3, 58),* 81, 24, (74, 60), 26, 34, (42, 75), 53, 30, (10, 40), (27, 45), 81,** (18, 39, 241), (5, 28), 6, 188, 9, (12, 19), 36, (49, 55).

English Language (advanced).—360,* 347.**

English Literature.—29, 31, 59, 35, (4, 16, 43), 21, 9, 33, (41, 57, 76), (38, 75, 180), (3, 74, 83), (1, 30, 58, 70, 105, 170), (7, 25, 73), (11, 15, 48, 60, 61, 153), 53, 195), (23, 28, 77), (40, 51, 81, 243), (27, 226), (32, 45, 80, 114, 126, 184, 197, 244), (79, 90), (18, 50, 68, 82, 96, 215, 225), (2, 125, 241), (37, 100, 104, 182, 199, 208, 224), (8, 34, 44, 54, 97, 112), (10, 56, 92, 109, 111, 130, 142, 145, 182, 187, 190), (13, 19, 64, 146, 240), (186, 194), (5, 6, 67, 106, 107, 216, 220, 245),* (17, 24, 42, 98, 174, 185, 212), (65, 110, 221), (12, 47, 87, 147, 237), (20, 62, 108, 137, 144, 188, 191, 196), (26, 102), (124, 127, 198, 210, 213), (218, 236, 239), (52, 95, 99, 149, 150, 193), (22, 103, 119, 227), (94, 120), (39, 113, 121), (14, 222), 36, 135, (46, 86, 91, 134, 181, 217),** 219, (238, 246, 361), (177, 178), (49, 143, 229), (93, 175), 228, 223, 189, 151, 117, 89.

English Literature (Advanced).—347, 360, 205.*

History.—74, 29, 31, 61, 43, (59, 232), 35, (57, 70), 58, 47, 73, 64, 44, (114, 230), 233, 125,* (60, 225, 234), 68, 126, 62, 226, 189, (127, 190), 171, (110, 235),** 111, 224, 124, 212, 170, (108, 131), (90, 109).

History (Advanced).—360, 347.*

Geography.—188, 84, (44, 59, 161), 162, (16, 76), 74, (11, 15, 77, 82), (83, 158), (119, 171), (4, 58),* 154, (60, 90), (21, 25, 153), (81, 122, 246), (5, 18, 61, 64), (19, 20, 93, 120, 132, 182, 189, 201, 243), 115, (79, 104, 146, 156, 159, 163), (3, 9, 80, 97, 155, 202), (7, 118, 167, 187, 234), (35, 103, 203), (17, 105, 117, 147, 183), (10, 39, 92, 121, 164, 170, 221, 233), 106, 142, 157, 169, 175, 204), (96, 165), (1, 62, 126, 131, 166, 174, 186, 225, 226, 244),** (136, 168), (34, 75, 144, 216), (86, 87, 134, 180, 230, 235, 245), (8, 14, 22, 145, 185, 212, 219), 125, (2, 36, 65, 214, 232, 237), (93, 94, 184, 200), (124, 137, 179, 220, 224), (12, 13), (149, 218), (38, 91, 151, 194), (6, 143, 150, 213, 217), (181, 222), (46, 67, 177), (37, 193, 247), (26, 52, 95, 100, 123, 208, 215).

Botany.—109, (83, 199), (29, 41), (111, 198), (76, 195), 35,* (24, 75), (23, 61, 81), (6, 30, 110), (59, 97, 105, 142, 197), (43, 45, 79, 80, 130, 156, 178), 77, (18, 25, 26, 38, 57, 221), (39, 58, 125, 219), 126, (32, 36, 132, 136, 158, 163, 170, 222, 241),** (159, 182), (34, 60, 95, 99, 155, 174, 245), 102, (112, 200, 216), (12, 13, 107, 108, 115, 146, 151, 168, 180, 226), (10, 96, 113, 153, 175, 186, 190), (3, 42, 127, 135, 187, 204, 220, 225, 244), (8, 28, 33, 37, 82, 106, 114, 134), (40, 84, 117, 161, 177, 183), (144, 162, 169), (19, 98, 104, 131, 147, 150, 154, 157, 165, 166, 185, 188, 196, 207, 243).

Botany (Advanced).—347, 360,* 205.

Chemistry.—16, (29, 83), (25, 35), (3, 32), (76, 230), (18, 41, 77, 81),* 82, (6, 75), (30, 172), (19, 24, 31, 36, 232), (23, 220), 43, (12, 130), 80, 79, (33, 34),** 8, 38, (9, 39, 171), 5, (13, 45), 1, (26, 64), 28, 62.

Physiology and Hygiene.—127, (50, 56), (161, 226), 239, 199, 197, 230, (74, 105, 126, 158), (73, 104, 162),* 163, 155, (96, 99, 118, 130, 201, 244), (142, 154), (70, 97, 110, 117), (68, 84, 115), (49, 156, 157, 159, 165, 166, 170, 241, 243), (46, 76, 136, 195), (65, 131, 240), (120, 145, 172), (98, 107, 125, 146, 171, 188), (85, 86, 91, 114, 122, 149, 153, 164, 198, 202, 225), (52, 121, 185, 193, 210, 245), (119, 143, 167, 180, 208, 217), (87, 92, 106, 137, 175, 190, 207, 237, 246),** (109, 135, 179, 228, 234, 238), (95, 100, 174, 214, 224, 232), (168, 169, 183, 247), (77, 144, 189, 216), (186, 187, 233), (55, 212, 221), (67, 89, 102, 223, 227, 236), (111, 184, 204, 229), (112, 151, 220), (103, 113, 196, 218), (132, 177, 181), (90, 178), (124, 235), 147, (94, 108, 123, 134, 150, 194, 203, 211, 361).

Physics.—3, 7, 48, 19, 97, 15, (6, 104), 230, 51, (9, 95, 98, 105), 96, 11, 47, (99, 106), 232, 13,** 233, 100, 54, (21, 62, 102, 103), (17, 220), 5, 1, (8, 107), (4, 20, 234), 10.

Drawing.—24, 32, 9, 29, 44,* (2. 27, 42), (35, 47, 83), 38, 79, (19, 26), (8, 30, 36), (12, 13 43), 6, (5, 40, 82), (31, 77), 75,** (22, 215), (34, 207, 208), (23, 76), (23, 80, 224), (1, 10, 124), (25, 115), (14, 226), (7, 39, 45, 218), 11, 81, 220, (16, 33, 216), 210, (15, 18).

Passed the University Examinations.

SESSION 1891-92.

FACULTY OF LAW.

PASSED FOR THE DEGREE OF B.C.L.

Ryan, Percy C.
Truell, Harry, B.A.

FACULTY OF MEDICINE.

PASSED FOR THE DEGREE OF M.D., C.M.

(Arranged alphabetically).

Berwick, G. A., Farnham, Que.
Binmore, J. E., Montreal.
Bowen, G. A., Coaticook, Que.
Boyce, B. F., Norham, Ont.
Brown, F. W. A., Brockville, Ont.
Brouse, J. E., Brockville, Ont.
Bruce, D. A., Grandview, P.E.I.
Brunette, J. E., Cornwall, Ont.
Carmichael, H. B., Montreal.
Chabot, J. L., Ottawa, Ont
Chipman, R. J., Halifax, N.S.
Day, A. R. A., Guelph, Ont.
Duncan, G. H., Duncanville, Ont.
Girdlestone, C. W., Winnipeg, Man.
Glendenning, R. F., Trumanville, N.S.
Graham, W. C. R., Prescott, Ont.
Grant, H. A., Cardigan, P.E.I.
Halliday, V., Peterooro, Ont.
Hayes, P. J., Montreal.
Henderson, J., Warkworth, Ont.
Hogg, D. W., Winnipeg, Man.
Jack Du Vernet, Montreal.
Jameson, T., Rochester, N.Y.
Johnston, A., Ottawa, Ont.
King, H. S., Sarnia, Ont,
Lang, F. W., St. Mary's, Ont.
Langley, A. F., Victoria, B.C.
McCann, A. E. A., Montreal.
McKay, D. T., Clifton, P.E.I.
McKenty, J. E., Montreal.
McKenzie, R. T., Montreal.
McKinnon, O. T., Kinross, P.E.I.
McNally, H. H., Fredericton, N.B.
Mair, A. W., Clinton, Ont.
Martin, C. F., Montreal.
Martin, T. H., Savages Mills, Que.
Massiah, W. B. H, Barbadoes, W.I
Meade, C. J., Morrisburg, Que.
Meikle, W. F., Morrisburg, Que.
Neil, J., Aylmer, Que.
Paterson, L., Harbour Grace, Nfld.
Peake, J. P., Fredericton, N.B.
Phelan, E. D., Montreal.
Robinson, B. E., Orillia, Ont.
Rogers, W., Montreal.
Smith, W. H., Winnipeg, Man
Taplin, M. M, Addison, Ont.
Taylor, T. T., Chatham, Ont.
Taylor, J. N., Ottawa, Ont.
Thompson, J., Moulinette, Ont.
Travers, J. B., St. John N.B.
Wade, A. S, Perth, Ont.
Walker, W. G., Stratford, Ont.
Walsh, T. N., Ormstown, Que.
Walsh, W. E., Ormstown, Que.
Wasson, H J., Peterboro. Ont

PASSED THE PRIMARY EXAMINATION.

(Arranged alphabetically.)

Bazin, A. T., Montreal.
Brouse, J. E., Brockville, Ont.
Byers, G. M W., Gananoque, Ont.
Carroll, R. W., Stratford, Ont.
Davidson, A., Burns, Ont.
Drysdale, W. F., Perth, Ont.
Fergusson, W., Pictou, N.S.
Fowler, E. S., Hudson, Wis.
Fry, J. M., Montreal.
Gorell, C. W. F., Brockville, Ont.
Haight, M., New Durham, Ont.
Hall, M. K., Franklin Centre, Que.
Hamilton, G., Bright, Ont.
Hanington, J. P., Montreal.
Hart, E. C., Baddeck, N.S.
Henderson, W., Dickenson, Ont.
Holohan, P. A., B.A., Newcastle, N.B.
Jacques, H. M., Upper Dyke, N.S.
King, H. S., Sarnia, Ont.
Kinghorn, H. McL., B.A., Montreal.
Masten, C., Lacolle, Que.
Matheson, R., Cardigan, P.E.I.
McCarthy, G. S., Ottawa.
McCrea, J. J., Laggan, Ont.
McLaren, J. F., Belle Creek, P.E.I.
McLaughlin, J. A., Avonmore, Ont.
McIntosh, L. Y., Strathmore, Ont.
McKenzie, L. F., Montreal.
Manchester, G. H., Brighton, Ont.
Mathewson, G. H., B.A., Montreal.
Mitchell, W., Lachute, Que.
Neil, J., Aylmer, Que.
Nichols, A. G., B.A., Newry, Ont.
O'Connor, E. J., Ottawa.
Pritchard, J., B.A., N. Wakefield, Que.
Richardson, A., South March, Ont.
Rimer, F. E, Bryson, Que.
Robertson, A. A., B.A., Montreal.
Richardson, H. J., Chesterfield, Ont.
Ross, D. W., Grand Falls, N.B.
Ross, H., Glenshee, N.S.
Ross, J. J., Dewittsville, Que.
Shaw, H. S., Montreal.
Shillington, A. T., Kemptville, Ont.
Stenning, W. A., Coaticook, Que.
Wolf, C. G. L., B.A., Winnipeg, Man.
York, H. E., Metcalf, Ont.

FACULTY OF ARTS.

BACHELOR OF ARTS PROCEEDING TO THE DEGREE OF M.A. IN COURSE.

Hibbard, Frederick W., B.A.

ADMITTED TO THE DEGREE OF LL.D., *Honoris Causa.*

BARON FREDERICK VON MUELLER, K.C.M.G., F.R.S., Government Botanist, Victoria, Australia.

PASSED FOR THE DEGREE OF B.A.

In Honours.

(Alphabetically arranged.)

McGILL COLLEGE.

First Rank.—ARCHIBALD, E. W.
CAMPBELL, KATE M.
CUSHING, H. B.
DAVEY, R. G.
DRUM, LORNE.
KOLLMYER, W. HECTOR S.
MESSENGER, W. J.
MITCHELL, ROBERT J. W.
PARKER, EDWIN G.
PITCHER, ETHELWYN.
TATLEY, HELENA.
WOOD, ARTHUR B.

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Class I.—Robins, Geo. D.
Barron, Robt. H.
Jaquays, H. M.
Raynes, Ethel. } equal.
Whyte, George. }
Taylor, James.

Class II.—Ross, Robt. O.
Reeves, Archibald C.
Macdonald, Minnie.
Blachford, Henry.
McAlpine, J. J.
Mackenzie, Ewen A.
Brown, Daniel.
McLennan, Kenneth.
Mewhort, Louise.
Lyman Helen W

Class III.—Williams, Edward J.
Smyth, Walter H.
Davidson, Clara F. M. } equal.
Leach, Milda. }
Hamilton, Daniel S. } equal
Pritchard, Wm. P. }
Jekill, Henry.
Graham, George D.
Craik, Galen H.
Allen, James H.
Colquhoun, Philip L.
McLeod, Norman A.
Ross, Jessie K.
Guthrie, Donald.

Aeger.—Anderson John D.

MORRIN COLLEGE.

Class I.—Livingstone, Neil.
Class II.—Tanner, John M. E. F.
Class III.—None.

PASSED THE INTERMEDIATE EXAMINATION.

McGILL COLLEGE.

Class I.—Smith Alistair.
Davis, David T.
Graham, Angus.
Blackett, John.

Class II.—Day, Frank J.
Ogilvy, Isabella.
Bickerdike, F. A. C.
Barlow, Walter L. } equal.
Gyde, Lilian N. }
Dickson, Sidney M.
Dickson, Edward H. T.
Graham, Fred. H.
Warner, Agnes L.
Duclos, Arnold W.

Class III.—Mackenzie Janet F.
Lewis, William P.
Craig, Margaret
Stewart, J. C.
Hanran, Robert J.
Harvey, Fred. W
Boyd, Robert } equal.
Brown, Jessie }
Hargrave, Edith
Shaw, S. Louise
Naylor, Henry A.
Garrett William P.
McGregor, Alexander.
Ireland, George.
Bond, William L.
Bremner, William. s.
Fraser, Frank C. s.
McKeracher, William, s.
Ogilvy, Charles, s.

S. With supplemental in one subject (arranged alphabetically).

MORRIN COLLEGE.

Class I.—None. *Class II.*—Harper, Moffat, Fraser. *Class III.*—Polley, Lee.

ST. FRANCIS COLLEGE.

Class II.—Dunkerley.

FACULTY OF APPLIED SCIENCE.

PASSED FOR THE DEGREE OF BACHELOR OF APPLIED SCIENCE, IN ORDER OF MERIT.

Civil Engineering.

James Tighe, Holyoke, Mass.
James George R. Wainwright, St. Andrews, Que.
Ellsworth D. Bolton, Listowel, Ont.

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Henry Black Stuart, Montreal.
Peter Joseph Murphy, Quebec.
Louis Benjamin Copeland, Berthier, Que.

Mechanical Engineering.

George Sinclair Smith, Petitcodiac, N.B.
William Henry Warren, Montreal.
William Norton Cunningham, Montreal.
William C. Gregory Smart, Hamilton, Ont.

Mining Engineering.

John Murray McGregor, B.A.
Charles B. Kingston, B.A., Montreal.
James George H. Purves, Sydney, C.B.

Practical Chemistry.

Peter Henry Le Rossignol, Montreal.
William Edward Boustead, Toronto.
Walter Chamblet Adams, Montreal.
Alonzo John Klock, Aylmer, Que.

ADMITTED TO THE DEGREE OF MASTER OF ENGINEERING

William A. Carlyle, B.A.Sc.

ADMITTED TO THE DEGREE OF MASTER OF APPLIED SCIENCE.

Nevil Norton Evans, B.A.Sc.

FACULTY OF VETERINARY SCIENCE.

PASSED FOR THE DEGREEE OF D.V.S.

McIntyre, J. D.
Gangloff, G.
Bolgar, D. L.
Seale, J. H.
Moffatt, J.
McNaughton, D.
Plaskett, J.
Robb, E.
Wells, G. P.
Pote, T. B.
Lofgren, O. C.
Ramsay, R. A.
Dyer, R. E.
Lee, George.
Moffatt, S. J.
Robertson, A. T.

Scholarships and Exhibitions.

SESSION 1891-92.

FACULTY OF ARTS.

I. SCHOLARSHIPS (Tenable for two years).

Year of Award.	Names of Scholars.	Subject of Examination.	Annual Value.	Founder or Donor.
1890	Wood, Arthur B.	Mathematics.	$125	W. C. McDonald.
1890	Robins, George D.	Mathematics.	125	W. C. McDonald.
1890	Cushing, Harold B.	Nat. Science.	125	W. C. McDonald.
1890	Archibald, E.	Class.& Mod.Lang	125	W. C. McDonald.
1890	Kollmyer, W. H.	Class.& Mod.Lang	120	Barbara Scott.
1891	Brown, James T.	Mathematics.	125	W. C. McDonald.
1891	MacIver, E. J.	Nat. Science	125	W. C. McDonald.

II. EXHIBITIONS (Tenable for one year).

NAMES OF EXHIBITIONERS.	Academic Year.	Annual Value.	Founder or Donor.
Dickson, Trenholme.	Second	$125	W. C. McDonald.
Dickson, Sidney M.	"	125	George Hague.
Smith, Alistair.	"	125	W. C. McDonald.
Watson, Rosalind.	First	100	Mrs. Jane Redpath.
Whiteaves, Maud.	"	100	Mrs. Jane Redpath.
*Armstrong, E. N.	"	125	W. C. McDonald.
Travis, Katharine.	"	100	Sir Donald Smith.
*Young, Henry.	"	125	W. C. McDonald.
Watt, James C.	"	125	W. C. McDonald.
LeRoy, O. E.	"	100	Major Mills.

A McDonald Bursary, value $62.50, was awarded to McKeracher, W. M at the Second Year Exhibition Examination.

* The Governor-General's exemptions from Tuition Fees for four years were granted in September, 1891, to Armstrong and Young.

MCGILL UNIVERSITY LIBRARY

Prizes, Honours and Standing.

SESSION 1891-92.

FACULTY OF LAW.

GRADUATING CLASS.

THIRD YEAR.

Ryan, Percy C., Ottawa; First Rank Honors and Elizabeth Torrance Gold Medal and Prize of $50.

Truell, Harry V., B.A., Barnston, Que.; First Rank Honors and Prize for Thesis and Prize of $25.

PASSED FOR THE DEGREE OF B.C.L.

Ryan, Percy C.; Truell, Harry V.

SECOND YEAR.

Davidson, Peers, B.A., Montreal; First Rank Honors and Prize of $50.

Hall, Alex. Rives, B.A., Toronto; First Rank Honors and Prize of $25.

PASSED THE SESSIONAL EXAMINATIONS.

Davidson, Peers, B.A.
Hall, Alex. Rives, B.A.
Geoffrion, Aimé, Montreal.
Jacobs, Samuel W., Lancaster, Ont.
Passed *in absentia, aeger.*—Cameron, John Alexander, B.A., Huntingdon, Que.

FIRST YEAR.

Macdougall, Gordon Walters, B.A., Montreal; First Rank Honors and Prize of $50.

Internoscia, Jerome (Fourth Year Arts), Bapolla, Italy; Scholarship of $100, open to students not domiciled in Montreal and vicinity.

PASSED THE SESSIONAL EXAMINATIONS.

MacDougall, G. W., B.A., Montreal; Internoscia, J., Bapolla, Italy; Hogle, Arthur, Sherbrooke, Q.; Dunlop, John, Montreal.

STANDING IN THE CLASSES.

LAW OF OBLIGATIONS.—Examiner, N. W. TRENHOLME, D.C.L., Dean of the Faculty.

Second Year.—Davidson and Hall, equal; Geoffrion; Cameron and Curran, equal; Harwood, Johnson; Jacobs and Glass, equal.

First " Walsh and Internoscia, equal; Hogle, Gamble; Cox and Ringland, equal; McDougall; Dunlop and Jones equal; Sheridan and Sawyer, equal; Lebeuf.

CRIMINAL LAW.—Examiner, THE DEAN.

Third Year.—Ryan, Truell.

Second " Hall and Davidson, equal; Curran, Cameron; Jacobs and Geoffrion, equal; Johnson and Glass, equal.

First " Cox, Hogle, McDougall; Ringland and Internoscia, equal; Sawyer, Walsh; Jones and Dunlop and Lebeuf, equal.

INTERNATIONAL LAW.—Examiner, THE DEAN.

Third Year.—Ryan, Truell.

Second " Davidson, Hall, Cameron, Johnson, Jacobs, Geoffrion, Glass, Curran, Howard.

First " McDougall and Jones, equal; Cox and Gamble, equal; Walsh, Internoscia, Dunlop, Whelan, Hogle, Sawyer; Ringland and Lebeuf and Sheridan, equal.

CONSTITUTIONAL LAW.—Examiner, THE DEAN.

Third Year.—Ryan and Truell, equal.

Second " Davidson; Geoffrion and Hall, equal; Curran and Jacobs, equal; Harwood, Glass, Johnson. Passed, *aeger*, Cameron.

First " Gamble, Jones, Macdougall; Dunlop and Cox, equal; Sawyer and Hogle, equal; Internoscia, Walsh, Sheridan.

ROMAN LAW.—Examiner, THE DEAN.

First Year.—Jones and McDougall, equal; Gamble; Internoscia and Sawyer, equal; Cox, Dunlop; Walsh and Hogle, equal; Whelan; Sheridan and Ringland, equal.

LAW OF REAL ESTATE.—Examiner, Hon. J. S. C. WURTELE, D.C.L., Prof.

Third Year.—Truell, Ryan.

Second " Hall, Cameron, Harwood, Jacobs, Geoffrion, Curran, Davidson, Johnson, Glass.

First " Cox, Dunlop, Gamble, Internoscia, Ringland, Sawyer, Sheridan, Jones, Hogle, Whelan, Walsh, Macdougall, Lebeuf.

LAW OF INSURANCE.—Examiner, Prof. J. S. ARCHIBALD, M.A., D.C.L., Q.C.

Third Year.—Ryan, Truell.

Second " Curran, Geoffrion, Davidson; Glass and Harwood and Jacobs, equal; Johnson, Hall.

First " Jones, Macdougall, Cox; Hogle and Internoscia, equal; Dunlop, Gamble, Walsh, Sheridan, Sawyer.

COMMERCIAL LAW (*Agency and Partnership*).—Examiner, Prof. L. H. DAVIDSON, D.C.L., Q.C.

Third Year.—Ryan, Truell.

Second " Davidson, Cameron, Jacobs, Harwood, Curran, Johnson Geoffrion, Hall, Glass.

First " Internoscia, Cox, MacDougall, Ringland; Jones and Hogle, equal; Sawyer and Walsh, equal; Dunlop.

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LAW OF CONTRACTS.—Examiner, Prof. C. A. GEOFFRION, D.C.L., Q.C.

Third Year.—Ryan, Truell.

Second " Davidson, Geoffrion, Cameron; Hall and Johnson, equal; Jacobs and Harwood, equal; Curran and Glass, equal.

First " Cox, McDougall; Hogle and Internoscia and Dunlop, equal; Jones; Ringland and Sawyer, equal; Lebeuf and Walsh, equal.

LEGAL HISTORY AND BIBLIOGRAPHY.—Examiner, Prof. ARCH. MCGOUN, M.A., B.C.L.

Third Year.—Ryan, Truell.

Second " Cameron, Hall, Davidson; Curran and Geoffrion, equal; Johnson, Jacobs, Harwood, Glass.

First " McDougall, Walsh; Cox and Dunlop, equal; Lebeuf, Sawyer, Hogle, Ringland, Internoscia.

CIVIL PROCEDURE.—Examiner, Prof. FORTIN, LL.L., B.C.L.

Third Year.—Ryan, Truell.

Second " Davidson, Cameron, Hall, Curran, Geoffrion; Harwood and Jacobs, equal; Glass.

First " McDougall, Internoscia, Lebeuf, Dunlop; Hogle and Jones, equal.

NOTARIAL LAW.—Examiner, W. de M. MARLER, B.A., B.C.L., Professor.

Third Year.—Ryan, Truell.

Second " Davidson, Hall, Curran, Harwood; Glass and Jacobs, equal; Geoffrion, Johnson; also *aeger*, Cameron.

First " Internoscia; Dunlop and Jones, equal; Cox, Gamble; Hogle and McDougall, equal; Walsh.

LAW OF SUCCESSIONS.—Examiner, the Hon. C. J. DOHERTY, B.C.L., Prof.

Third Year.—Ryan, Truell.

Second " Geoffrion; Davidson and Hall, equal; Johnson and Jacobs equal; Curran, Glass, Harwood; also Cameron, *aeger*.

First " McDougall, Jones, Internoscia; Walsh and Hogle, equal; Cox, Dunlop, Gamble, Sawyer, Sheridan, Lebeuf.

BANKING AND DOCUMENTS OF TITLE.—Examiner, HARRY ABBOTT, B.C.L., Q.C., Professor.

Third Year.—Ryan and Truell.

Second " Davidson, Hall, Curran, Jacobs, Harwood, Glass, Johnson, Geoffrion. Cameron (*aeger*).

First " Gamble, Jones, McDougall, Cox; Dunlop and Sawyer, equal; Sheridan; Hogle and Walsh, equal; Internoscia.

MARRIAGE COVENANTS—Examiner, EUGÈNE LAFLEUR, B.A., B.C.L., Prof.

Third Year.—Ryan, Truell.

Second " Davidson, Cameron, Geoffrion, Hall, Glass, Johnson, Jacobs.

First " Jones, MacDougall, Hogle, Cox, Internoscia; Dunlop and Gamble, equal; Walsh, Lebeuf.

FACULTY OF MEDICINE.

MEDALS AND PRIZES.

The Holmes Gold Medal for the best Examinations in all the Branches comprised in the Medical Curriculum is awarded to Thomas Jameson.

The prize for the best Examination in the Final Branches is awarded to James Henderson.

The Prize for the best Examination in the Primary Branches is awarded to A. Davidson.

The Sutherland Gold Medal is awarded to A. Davidson.

The Clemesha Prize in Cl[illegible] Therapeutics is awarded to W. B. H. Massiah.

PROFESSOR'S AND DEMONSTRATOR'S PRIZES.

Botany.....X. L. Anthony.
Zoology.....P. C. Leslie.
Clinical Chemistry.....J. Henderson.
Senior Anatomy.....L. Y. McIntosh.
Junior Anatomy.....W. W. Wickham. / F. L. Thomson.

FACULTY OF VETERINARY SCIENCE.

PRIZES AND MEDAL.*

Veterinary Medicine and Surgery—Joseph Plaskett.
Anatomy—J D. McIntyre.
Diseases of Cattle—J. D. McIntyre.
Cynology—D. L. Bolger.
Zoology—C. French.
For the best general examination on all subjects (Silver Medal)—J. D. McIntyre

SPECIAL PRIZES.

For the best essay read before the Veterinary Medical Association:
1st—D. L. Bolger, $15.
2nd—G. P. Wells, $10.
3rd—J. H. Seale, $5.

For the best essay read before the Society for the Study of Comparative Psychology (Book)—G. P. Wells.

Scholarship, $50.—For the highest aggregate obtained in second year subjects—Wilfred Plaskett.

Scholarship, $50.—For the highest aggregate obtained in first year subjects—C. French.

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* The Class Lists will be found in the special announcements of these Faculties.

UNIVERSITY LIBRARY

FACULTY OF ARTS.

GRADUATING CLASS

B.A. Honours in Mathematics and Natural Philosophy.

WOOD, ARTHUR B.—First Rank Honours and Anne Molson Gold Medal.

B.A. Honours in Classics.

KOLLMYER, W. HECTOR S.—First Rank Honours and Henry Chapman Gold Medal.

B.A. Honours in Natural Science.

CUSHING, H. B.—First Rank Honours and Logan Gold Medal, Prize in Botany.
MITCHELL, ROBT. J.—First Rank Honours.
TATLEY, ELEANOR.—First Rank Honours.

B.A. Honours in Mental and Moral Philosophy.

PITCHER, ETHELWYN.—First Rank Honours and Prince of Wales Gold Medal.
CAMPBELL, KATE M.—First Rank Honours and Medal Prize.
KOLLMYER, W. H. S.—First Rank Honours.
DAVEY, R. G.—First Rank Honours.

B.A. Honours in English Language, Literature and History.

MESSENGER, W.—First Rank Honours and Shakspere Gold Medal.
DRUM, LORNE.—First Rank Honours and Shakspere Medal Prize.
PARKER, E. G.—First Rank Honours.

B.A. Honours in Modern Languages.

ARCHIBALD E. W.—First Rank Honours and Lord Stanley Gold Medal.

Special Certificates for First Rank General Standing.

ROBINS, GEO. D.—Hiram Mills Gold Medal, with Special Certificate.
BARRON, ROBT. H.—Hiram Mill Medal Prize, with Special Certificate.
JAQUAYS, H. M.—Special Certificate.

Early English Text Society's Prize.

PARKER, E. G.

GORDON, JOHN S.—Prize for Collection of Plants.

THIRD YEAR.

SKEELS, A. A.—First Rank Honours and Prize in Classics; First Rank General Standing.
FAIRCLOUGH, L. M.—First Rank Honours in Classics.
MANSUR, C.—First Rank Honours in Natural Science; First Rank General Standing and Prize in Zoology.
GURD, C. C.—First Rank Honours in Natural Science.
LEE, M.—First Rank Honours in Natural Science.
JAMES, A.—First Rank Honours and Prize in English; First Rank General Standing and Prize in Zoology.
MCIVER, E. J.—First Rank Honours in English.
SEYMOUR, M.—First Rank Honours in English.

BROWN, J. T.—First Rank Honours and Prize in Mental and Moral Philosophy.
BORIGHT, M.—First Rank General Standing; Prize in Latin; Prize in Mental Philosophy.
JACKSON, A.—First Rank Honours and Prize in Modern Languages; First Rank General Standing.
SMARDON, L.—First Rank Honours in Modern Languages.
HICKSON, J. W. A.—First Rank Honours and Prize in Mental and Moral Philosophy; First Rank General Standing.
KILLALY, H. N.—First Rank General Standing; Prize in English Literature and Rhetoric.
DONAHUE, W.—Second Rank Honours in English.
TOWNSEND, W.—Second Rank Honours in English.
MILLAR, E.—Prize in English Literature and Rhetoric.
FARNSWORTH, A. H.—Prize in Hebrew.

THIRD YEAR.

PASSED THE SESSIONAL EXAMINATIONS.

Boright, Mansur, James, Skeels; Jackson and Hickson, equal; Brown (J. T.), Killaly, Mahaffy, Smardon, Gordon, Honeyman, Gurd, Millar, Lee, Angus, Thomson, Brittain, Farnsworth, Townsend, MacIver, Fairclough; Brown and Seymour, equal; McVicar (A.); McDonald and McGerrigle, equal; Munn, Robertson; Donahue and Dresser, equal; Hutchison, Sadler, Patterson, Pratt, Internoscia, McVicar (R.).

SECOND YEAR.

SMITH, A.—First Rank Honours and Prize in Mathematics; First Rank General Standing, Prize in Logic.
DAVIS, D. T.—First Rank General Standing; Prizes in Classics; Prize in English; Prize in French.
GRAHAM, A.—First Rank General Standing; Prize in Botany, and Second Prize in English.
BLACKETT, J.—First Rank General Standing.
BICKERDIKE, F. A. C.—Prize in Latin.
OGILVY, ISABELLA.—Prize in English.
WARNER, AGNES L.—Prize in Logic; Prize in Botany.
GYDE, LILIAN K.—Prizes in Classics; Prize in French.
DAY, F. J.—Prize in Hebrew.

PASSED THE SESSIONAL EXAMINATION.

Smith, Davis, Graham (A.), Blackett, Day, Ogilvy (I.), Bickerdike; Barlow and Gyde, equal; Dickson (S.M.), Dickson (E. H. T.), Graham (F.H), Warner, Duclos, McKenzie, Lewis, Craig (M.), Stewart, Hanran, Harvey, Boyd and Brown, equal; Hargrave, Shaw, Naylor, Garrett, McGregor Ireland; Bond *s*, Bremner *s*, Fraser *s*, McKeracher *s*, Ogilvy (Ch.) *s*.
s.—With Supplemental in one subject—(alphabetically arranged).

FIRST YEAR.

HOWARD, E. EDWIN (Inverness Academy, Q.).—First Rank Honours and Prize in Mathematics; First Rank General Standing; Prizes in Classics; Prize in Chemistry; Prize in English.

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TRAVIS, KATHARINE (Victoria High School, St. John, N.B.).—First Rank Honours and Prize in Mathematics; First Rank General Standing; Prize in Chemistry; Prizes in Latin and Roman History; Prize in English; Prize in French; Coster Memorial Prize.

MCINTOSH, MAJOR (Prince of Wales College, P.E.I.).—First Rank Honours and Prize in Mathematics; First Rank General Standing; Coster Memorial Prize.

WALLACE, JAMES M. (Kemptville High School).—First Rank Honours and Prize in Mathematics; First Rank General Standing.

WATSON, ROSALIND (Huntingdon Academy).—First Rank Honours and Prize in Mathematics; First Rank General Standing.

YOUNG, HENRY (Almonte High School, O.).—Second Rank Honours in Mathematics.

WATT, JAMES C. (Almonte High School, O.).—Second Rank Honours in Mathematics; First Rank General Standing.

WHITEAVES, A. M. (Ottawa Coll. Inst., O.).—First Rank General Standing. Prize in German.

BURNETT, A. (Grande Ligne Inst.).—First Rank General Standing; Prize in French.

CAMERON, S. E. (Baddeck, Cape Breton.).—First Rank General Standing.

KEITH, W. D. (Glencoe H.S.).—Prize in Hebrew.

PASSED THE SESSIONAL EXAMINATION.

Howard, MacIntosh (M.), Travis, Watson, Wallace, Whiteaves, Burnett, Watt Cameron, Rogers, Young (H.), Sutherland, Crombie, Keith, LeRoy, Armstrong (Ethel), MacIntosh (J.), Dyer, Worth, Levy, Hanson, Tooke, Armstrong (E.N.) *s*, Cushing *s*, Davidson *s*, Fourney *s*, Gilmour *s*, Hickson *s*, Smyths, Symmes *s*, Trenholme *s*, Weir *s*, Young (Stephen) *s*,

s.—With supplemental Examinations in one subject—(arranged alphabetically)

SESSIONAL EXAMINATIONS, 1891.

McGILL COLLEGE.

The mark in the following list indicates Partial or Occasional Students.*

GREEK.

B.A. ORDINARY.—*Class I.*—Barron and Kollmyer and Robins, equal; Ross (R. O.), McAlpin; Blachford and Reeves, equal. *Class II.*—Williams, Taylor, Mackenzie, MacLennan. *Class III.*—Craik and Brown, equal; Colquhoun, Pritchard, McLeod, Hamilton, Jekill.

THIRD YEAR.—*Class I.*—Skeels (*Prize*); Mahaffy, Fairclough. *Class II.*—Gordon, Farnsworth, McGerrigle. *Class III.*—Brown (C. L.) and Thompson and Townsend, equal; Sadler and Hunt, equal; Russell, Patterson; Hutchison and Robertson, equal; Honeyman; McCoy and McIver, equal Brittain, Dresser, Muir.

SECOND YEAR.—*Class I.*—Davis (*Prize*); Gyde (*Prize*); Bickerdike and Graham (A.), equal: Blacket and Smith, equal; Barlow, Graham (F. H.), Day; *Class II.*—Hanran, Dickson (T.), McKeracher; Craig (M.) and Dickson (S. M.), equal; Bond. *Class III.*—Boyd, Ogilvy, Lewis; Duclos and Lambly, equal; Bremner, Garrett, Harvey; Fraser and Ireland and McGregor, equal; Naylor, Stewart.

FIRST YEAR.—*Class I.*—Howard (*Prize*); Burnet, McIntosh (M.), Watson, Armstrong (E. N.); Travis and Watt, equal; Young (H). *Class II.*—Keith; Cameron and LeRoy, equal; McIntosh (J.), McEwen, McFarlane; Hickson and Young (S.) and Wallace, equal; Sutherland, Worth. *Class III.*—Crombie and Davidson, equal; Levy, Gilmour, Fourney, Rogers; Mount and Smyth and Tooke and Weir, equal; Trenholme and Symmes, equal; Hamilton and Mitchell, equal; Hanson. Coffin.

LATIN.

B.A. ORDINARY.—*Class I.*—Kollmyer, Robins, Barron, Campbell; Pitcher and Raynes, equal. *Class II.*—Macdonald, Reeves; Davidson and Jaquays, equal. *Class III.*—Carmichael and Mewhort, equal; MacLennan, Smyth, Leach; Graham and Guthrie, equal; Lyman, Ross (Jessie K).

THIRD YEAR.—*Class I.*—Boright (*Prize*); Skeels, Hickson; Angus and James, equal; Mansur; Fairclough and Millar, equal; Honeyman and Seymour, equal; Gurd; Killaly and Mahaffy, equal. *Class II.*—Donahue, Jackson; Lee and Smardon, equal; Brittain; Dresser and Farnsworth, equal; Pratt, Munn. *Class III.*—McDonald, McVicar (R.), Internoscia.

SECOND YEAR.—*Class I.*—Bickerdike (*Prize*) and Davis (*Prize*) and Gyde (*Prize*); equal; Blacket and Graham (A.), equal; Ogilvy (J.), Barlow; Day and Graham (F. H.) and McKenzie and Smith and Warner, equal. *Class II.*—Dickson (T.), Hanran; Dickson (S. M.) and Duclos, equal Lewis; Shaw and Stewart, equal. *Class III.*—Craig (M.) and Garrett, equal; Boyd and Ireland and Lambly, equal; Hargrave and Harvey, equal; Ogilvy (C.), McKeracher; Bond and McGregor, equal; Brown and Naylor, equal.

SECOND YEAR.—(*Latin Prose Composition*).—*Class I.*—Bickerdike and Davis and Graham (A.), equal; Blacket and Smith, equal; Gyde, Graham (F.H.). *Class II.*—Lewis and Dickson (S. M.) and Dickson (T.), equal; Barlow, Day; Ireland and McGregor and McKenzie, equal; Hargrave, Warner, Ogilvy (J.), Hanran. *Class III.*—Bremner, Brown; Bond and Boyd and Garrett and Shaw, equal; Stewart, Naylor, Craig (M.), Duclos, Harvey.

FIRST YEAR.—*Class I.*—Howard (*Prize*) and Travis (*Prize*), equal: McIntosh M., Savage, Burnet, Watt, Watson, Cameron, Whiteaves, Crombie; Keith and Rogers and LeRoy and Wallace, equal. *Class II.*—Armstrong (E. N.) and Hickson and McIntosh (J.), equal; McEwen, Young (H.), Armstrong (E.), Davidson; Trenholme and Young (S.), equal; Worth. *Class III.*—Mount and Sutherland, equal; Pettes; Fourney and Mitchell, equal; White, Anderson, Smyth; Gilmour and Tooke, equal; Hanson; Levy and Weir, equal; Cushing, Terryberry.

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ROMAN HISTORY AND LITERATURE.

FIRST YEAR.—*Class I.*—Travis (*Prize*); Howard and McIntosh (M.), equal; Cameron and Watson, equal; Savage, Burnet, Mitchell, Crombie, Rogers; Armstrong (E. N.) and Trenholme, equal; Anderson and Armstrong (Ethel), equal; Cushing; Watt and Whiteaves, equal. *Class II.*—Hickson and Wallace, equal; Davidson and McEwen and McIntosh (J.), equal; Weir; Hamilton and Rollit, equal; Sutherland and Rickey and Worth, equal; Tooke, Young (H.) *Class III.*—Hanson, LeRoy; Levy and Symmes, equal; Keith, Young (S.), Pettes, McNaughton, Martin, Gilmour, Fourney, Smyth.

MENTAL AND MORAL PHILOSOPHY.

B.A. ORDINARY.—(*Moral Philosophy*).—*Class I.*—Pitcher, Barron, Kollmyer, Campbell; Mackenzie and Robins. equal; Reeves; Davey and Macdonald, equal; Whyte; Parker and Ross (R. O.), equal; Blachford, Tatley, Raynes, Guthrie; Drum and Taylor, equal; Jaquays and *McKinley and MacLennan, equal. *Class II.*—*McArthur, Mewhort, Hamilton, *Barnby, McLeod, Anderson; Brown and *Burke and Leach and Messenger, equal; Carmichael and McAlpine, equal; *Burnett; Jekill and Lyman and *Morrison, equal. *Class III.*—Williams, Colquhoun, Pritchard, *Robinson, Allen, *Jones, *Sanderson, Ross (J. K.), Davidson, Craik, Graham, *Logan, Smyth, *Beattie, *Wilkinson, *Lee (H.), *Huxtable.

THIRD YEAR.—*Mental Philosophy.*—*Class I.*—Boright and Hickson, equal; Mansur, Brown (J. T.), Killaly, Lee (M.), Gordon. *Class II.*—*Sadler, Honeyman, Mahaffy; *MacIver and MacVicar (A.), equal; *Grisbrook, *Strong; Dresser and Humphreys, equal; Hunt and McCoy and *Westgate, equal; *Jackson (J. A.) and Macdonald, equal. *Class III.*—*Read, Townsend, MacVicar (R.), Russell, Donaldson; Internoscia and Robertson and Thompson, equal; Smith, *Sanderson, *Robinson; Hutchison and Pratt, equal; *Lee (H.), Donahue, *Fairbairn, Patterson, *Mervyn, *Elliott, *Truax, Wright.

Prizes:—Hickson, Brown (J. T.), Boright.

SECOND YEAR.—*Logic*—*Class I.*—Smith (*Prize*); Graham (A.) and Warner, (*Prize*) equal; Davis and Dickson (E. T.), equal; Brown (J. L.); Day and Humphreys and Gyde, equal; Stewart; Barlow and Brown (Jessie) and Duclos, equal. *Class II*—Harvey, Peever, Ogilvy (I.); Gilmore and Naylor and Mackeracher, equal; Graham (F. H.) and Lewis, equal. *Class III.*—Blacket, Fairbairn; Bickerdike and Boyd and Westgate and Mackenzie, equal; Brown (T.) and Fraser and Jackson and Mathers, equal; Garrett and Lambly and Sing and Craig, equal; Ogilvy (C.); Bond and Dickson (S. M.), equal; Hanran; McGregor and Shaw, equal; Calvert; Bremner and McConnell, equal; Hargrave, Stevens, Ascah; Beattie and Lee, equal.

EUROPEAN HISTORY.

B.A. ORDINARY.—*Class I.*—Messenger and Drum, equal; Parker, Mitchell, Macdonald (M.L.), Blachford, Lyman, Raynes, Mewhort. *Class II.*—Whyte, Mackenzie, Ross (R.O.), Leach, Taylor Hamilton, Williams. *Class III.*—MacLennan, Jekill, Ross (J. K.), Colquhoun, Davidson, Pritchard, Craik, Guthrie.

CANADIAN HISTORY.

B.A. ORDINARY.—*Class I.*—Archibald and Drum and Messenger, equal; Mitchell and Parker, equal; Blachford; Ross (R.O) and Taylor, equal; MacKenzie and White and Williams, equal. *Class II.*—Carmichael and Colquhoun and Jekill, equal; Hamilton, McLennan, Pritchard. *Class III.*—None.

Class I.—Lyman and Ross (J. K.), equal; Macdonald, Davidson, Mewhort, Raynes. *Class II.*—Leach.

ENGLISH LITERATURE AND RHETORIC.

THIRD YEAR.—*Class I.*—Millar (*Prize*); James, Killaly (*Prize*); Gordon, Townsend, McIver. *Class II.*—Skeels; Gurd and Lee and Read, equal; Seymour, Brown, Brittain, Russell, Donahue; Hutchison and Munn and Smith, equal; Hunt and Macdonald, equal. *Class III.*—McGerrigle, Internoscia, Mervyn, McVicar, Patterson, Grisbrooke.

ENGLISH LITERATURE AND EUROPEAN HISTORY.

SECOND YEAR.—*Class I.*—Davis (*Prize*); Graham (A.), Mackeracher, Ogilvy (I.) (*Prize*); Day; Craig and Gyde, equal; Smith; Bickerdike and Lewis, equal; Barlow and Mackenzie, equal; Dickson (S.) and Warner, equal; Blackett. *Class II.*—Craig (M.), Gilmore, Fraser; Graham (F. H.) and Hanran, equal; Naylor; Dickson (E. T.) and Harvey and Ireland and Stewart, equal; Boyd and Duclos, equal; Brown (J.); Bremner and Hargrave, equal; Ogilvy (C.) and Shaw, equal. *Class III.*—Coffin and Donaldson, equal; Lambly and Strong, equal; Garrett and Gregor, equal.

ENGLISH LITERATURE.

FIRST YEAR.—*Class I.*—Howard (*Prize*), MacIntosh (M.); Travis (*Prize*) and Trenholme, equal. *Class II.*—Armstrong (E.) and Cameron, equal; Burnet and Roger and Sutherland, equal; Whiteaves; Brown and LeRoy, equal; Savage; Millar and Worth, equal; Fourney and Hickson and Watt, equal. *Class III.*—Crombie and MacIntosh (J.), equal; Watson, Weir, Dyer, Armstrong (E. A.); Ascah and Levy and Tooke and Wallace, equal; Smyth; Keith and Cushing, equal; Campbell and McNaughton, equal; Mitchell, Hamilton and Hanson and Mount and Sims, equal; Gilmore and Rollit and White, equal; Buker; Martin and Young (H.), equal; Anderson; Rickey and Waterson, equal; Davidson and McEwen and Terryberry, equal.

MECHANICS AND HYDROSTATICS.

B.A. ORDINARY.—*Class I.*—Robins, Barron, Jaquays, Taylor. *Class II.*—Whyte, Mackenzie, Allen; Cushing and Guthrie, equal; McLeod and Smyth, equal. *Class III.*—Raynes, Graham; Anderson and Davey and MacDonald (M. L.), equal; Blachford; Williams and Leach, equal; Colquhoun, Davidson, Mewhort, Lyman, Carmichael, Ross.

THIRD YEAR.—*Class I.*—Boright, Mansur. *Class II.*—Brown (J. T.), Hickson Fairclough; Gurd and MacVicar (A.), equal; McGerrigle, Killaly, Honeyman. *Class III.*—Muir, Gordon, Brittain; Internoscia and Lee, equal; Brown (C. L.), Farnsworth, Dresser, Macdonald (J. H.), Sadler; McCoy and Miller, equal; Angus, Skeels; MacVicar (R.) and Munn.

ASTRONOMY AND OPTICS.

B.A. ORDINARY.—*Class I.*—Wood, Barron, Robins, Jaquays, Whyte, Taylor. *Class II.*—Allen. *Class III.*—Graham, McLeod.

THIRD YEAR.—*Class I.*—Brown (J. T.). *Class II.*—McGerrigle, Sadler. *Class III.*—Fairclough.

EXPERIMENTAL PHYSICS (*Light and Heat*).

B. A. ORDINARY.—*Class I.*—Robins, Wood. *Class II.*—Whyte. *Class III.*—MacKenzie, Smyth, Williams, Anderson, Allen, Carmichael, Colquhoun. (*Electricity and Sound*). *Class III.*—McLeod (N. A.), Guthrie.

THIRD YEAR.—*Class III.*—McVicar (*A*).

GEOMETRY AND ARITHMETIC.

SECOND YEAR.—*Class I.*—Smith, Blackett. *Class II.*—Ogilvy (J.), Barlow Harvey; Dickson (S. M.) and Davis and Day, equal; Dickson (E. T.) and Fraser and Graham (A.) and Stewart and Craig, equal; Boyd and Lewis, equal; Duclos. *Class III.*—Gyde, Naylor, Bickerdike, Ogilvy (C.); Hanran and Warner, equal; Lambly, Graham (F. H.), Ireland; Garrett and Hargrave, equal; Bremner and McGregor and Brown (J.), equal; McKeracher and Mackenzie, equal; Bond and Shaw, equal.

TRIGONOMETRY AND ALGEBRA.

SECOND YEAR.—*Class I.*—Smith. *Class II.*—Day, Blackett, Ogilvy (J.), Dickson (S. M.); Davis and Graham (F. H.), equal. *Class III.*—Harvey; Bickerdike and Naylor, equal; Dickson (E. T) Bremner and Stewart equal; Barlow and Craig, equal; Graham (A.) and McGregor, equal; Boyd and Ogilvy (C.) and Shaw, equal; Ireland; Brown (J.) and Warner, equal; McKeracher; Fraser and Lewis, equal; Lambly, Hanran, Duclos, Garrett, Bond, Hargrave, Gyde, Mackenzie.

GEOMETRY AND ARITHMETIC.

FIRST YEAR.—*Class I.*—Howard and McIntosh (M.), equal; Rogers and Travis and Watson, equal; Young (H.), Watt, Wallace, Whiteaves, Armstrong (Edgar); Burnett and Sutherland, equal; Cameron. *Class II.*—Dyer, Hanson, Hickson, Campbell, LeRoy, Young (S.), Gilmour (F. H.), Weir Keith, McIntosh (J.). *Class III.*—Symmes, Tooke, Smyth; Terryberry and White, equal; McNaughton; Fourney and Pettes and Worth, equal; Armstrong (Ethel), Davidson, Rickey, Hamilton, Martin; Crombie and Levy, equal; Cushing, Mitchell.

TRIGONOMETRY AND ALGEBRA.

FIRST YEAR.—*Class I.*—Howard; McIntosh (M.) and Whiteaves, equal; Roger and Wallace, equal; Crombie and Watson, equal; Travis and Young (H.), equal; Watt, Cameron, Sutherland. *Class II.*—Dyer and Hickson and LeRoy, equal; Worth, Levy; Armstrong (Edgar) and Keith, equal; Terryberry, Hanson. *Class III.*—Davidson and Fourney, equal; Burnett; Symmes and White, equal; Smyth, Tooke, Weir, Young (S.), Hamilton, Gilmour (F. W.), Trenholme; Armstrong (Ethel) and Rickey, equal; Martin, McNaughton, McIntosh (J.), Campbell.

HONOUR EXAMINATIONS IN MATHEMATICS AND NATURAL PHILOSOPHY.

B. A.—*First Rank Honours.*—Wood (Arthur B.); Ann Molson Gold Medal.

SECOND YEAR.—*First Rank Honours.*—Smith (A.), (*Prize*).

FIRST YEAR.—*First Rank Honours.*—Howard (*Prize*), Travis (*Prize*), Wallace (*Prize*), McIntosh (*Prize*), Watson (*Prize*).
Second Rank Honours.—Young (Henry), Watt.

FRENCH.

B. A. ORDINARY.—*Class I.*—Archibald, Barron, Robins, Mewhort, Davidson, Raynes, Smyth. *Class II.*—Lyman, Jaquays, Blachford, Brown. *Class III.*—Graham, Leach.

THIRD YEAR.—*Class I.*—Jackson (*Prize*); Smardon, Boright, Skeels, James, Millar, Angus, Honeyman. *Class II.*—Brown and Hickson, equal; Brittain, Munn. *Class III.*—Gurd, Lee, Sadler.

SECOND YEAR.—*Class I.*—Davis, *Prize*); Bickerdike, Gyde, Blacket, Ogilvy (Is.) Duclos, Barlow, Brown. *Class II.*—Mackenzie, Hargrave; Ogilvie (Chs.) and Warner, equal; Lambly; Dickson (S. M.) and Shaw, equal; Mackeracher, Hanran; Dickson (E. T.) and Fraser, equal; Lewis and Craig, equal; Boyd, Bond.

FIRST YEAR.—*Class I.*—Savage; Burnet, (*Prize*) and Travis, (*Prize*), equal. *Class II.*—Johnson, Levy, Armstrong (E. M.); Howard and Watson, equal; Cameron, Armstrong (E.), Carter, Hart; McIntosh and Whiteaves, equal; Dyer. *Class III.*—Vaughan, Tooke, Hanson; Cushing and Fourney, equal; Hickson, Smyth, McNaughton, Anderson, Trenholme, White, Davidson, LeRoy, Symmes, Rickey, Campbell.

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GERMAN.

B. A. Honours.—*Class I.*—Archibald.

Third Year.—Honours.—*Class I.*—Jackson, Smardon.

Third Year Ordinary.—*Class I.*—Angus, Jekill. *Class II.*—Seymour.

Second Year.—*Class I.*—Smith, Ogilvy, Mackenzie. *Class II.*—Shaw. *Class III.*—Hargrave, Brown, Warner, Garrett, Harvey.

First Year.—*Class I.*—Whiteaves, (prize) Johnson, Watt, Armstrong, Cushing. *Class II.*—Young, Rogers, Levy. *Class III.*—McEwen, Anderson, Waterson, LeRoy.

HEBREW.

B.A. Ordinary.—*Class I.*—Ross (R. O.), McAlpine, Reeves, Anderson (J. D.). *Class II.*—Pritchard, McLeod (M.A.). *Class III.*—Craik, Beattie, Hamilton (D. S.), Guthrie.

Third Year.—*Class I.*—Farnsworth (*Prize*), Thompson (J.), Gordon, Read. *Class II.*—Robertson (A. J.), Grisbrook. *Class III.*—Pratt.

Second Year.—*Class I.*—Waller, Day (*Prize*), Vaughan, Graham (Angus). *Class II.*—Burke. *Class III.*—McGregor and Graham (F. H.), equal; Bremner, Truax, Stewart (J. C.), Maynard (J. L.); Mervyn and Ireland, equal; Naylor.

First Year.—*Class I.*—Brown (J. L.), Gilmore (Geo.), McConnell, Keith (*Prize*), Sutherland; Brandt and Charles, equal; Wallace, Bucker, Worth; Crombie and MacIntosh, equal. *Class II.*—Calvert and Jackson, equal; Mathers, Lamert, Mount; Biron and Terryberry, equal; Walker and Martin (D. E.) and Gilmore (T. W.), equal. *Class III.*—Hamilton (W. J.), Weir (Geo.), Rollit; Mitchell (A) and Brown (Thomas), equal; Scott (Th.), Armstrong (S.).

GEOLOGY.

B.A. Ordinary.—*Class I.*—Barron, Cushing, Tatley, Ross (R.O.), Brown (D.) Raynes; Blatchford and Jaquays, equal; Taylor, Mitchell, McArthur,* Colquhoun, Graham, McKenzie; Lyman and Williams, equal; McLennan, Pritchard. *Class II.*—Smyth; Davidson and Hamilton and Ross (Jessie K.), equal; Carmichael; Craik and Wilkinson, equal; McDonald and Leach equal; Jones and Mewhort and Reeves, equal; Logan,* Barnby, McAlpine, Burnett, Jekill, Allen and Beatty,* equal.

* Partial and Occasional.

ADDITIONAL GEOLOGY.

Class II.—Brown, McAlpine, Ross (J. K.).

ZOOLOGY AND PALÆONTOLOGY.

THIRD YEAR.—*Class I.*—Mansur (*Prize*) ; Gurd and James, equal (*Prize*) ; Gordon ; Kilaly and McConnel,* equal ; Angus and Brittain and Mathers equal ; Lee and Peever, equal ; Boright and Smith, equal ; McDonald and Munn, equal. *Class II.*—Brown (J. L.), Smardon, McCoy, Honeyman, Patterson, Hickson, Jackson ; Thompson and Warren,* equal ; Hunt and Robertson and Russell and Sing and Skeels, equal ; Calvert and McVicar (A.), equal ; Dresser, Townsend ; Mahaffy ; and Miller (E.), equal ; Brown (C. L.) and McIver, equal ; Sadler, McGearigle, Coffin,* Hutchinson, Sanderson,* Brown*)T.), Seymour. *Class III.*—Donahue and Pratt, equal ; Humphrey* and Muir, equal ; McVicar (R M.) and Strong,* equal ; Mervyn, Miller (R.),* Parrish.*

* Partial and Occasional.

BOTANY.

SECOND YEAR.—*Class I.*—Graham, Angus (*Prize*) ; Davis, Warner (*Prize*) ; Barlow, Dickson (S.M.,) Ogilvie (Isa). *Class II.*—Day, Gyde ; Fraser and Graham (F. H.), equal ; Hargrave ; Bickerdike and Duclos and McGregor, equal ; Ogilvy (Chas.) and Brown, equal ; Craig, Harvey, Stewart ; Blackett and Bremner and Mackenzie, equal ; Dickson (E. H. T.). *Class III.*—Gilmore,* Boyd, Garrett, Bond, Shaw (S. L.), Ireland, Lewis, Naylor, McKeracher, Hanran.

CHEMISTRY.

FIRST YEAR.—*Class I.*—Howard (*Prize*), Wallace ; Travis (*Prize*) and Crombie, equal ; McIntosh (M.), Watson, Burnet. *Class II.*—Cameron and Keith and Vaughan, equal ; Sutherland, Young (H.), Trenholme, Levy. *Class III.*—Rogers, MacIntosh (J.), Symmes, Ascah, Armstrong (E.) ; Massicotte and Tooke and Whiteaves, equal ; Watt, Hanson, Jones ; Cushing and McNaughton and White, equal ; Anderson (C.) and Young (S.), equal ; Campbell and Le Roy and Worth, equal ; Dyer, McEwen, (D.), Waterson.

WICKSTEED MEDALS FOR PHYSICAL CULTURE.

Silver Medal, A. B. Wood.
Bronze Medal, S. M. Dickson.

Honourable Mention { H. M. JAQUAYS. / W. H. SMYTH. } equal.

DONALDA PRIZES FOR PHYSICAL CULTURE.

Kate M. Campbell, Senior Prize ; Katherine Travis, Junior Prize.

ELOCUTION PRIZES.

Maud Whiteaves, George Whyte.

PASSED IN ELOCUTION.

Class I.—Whiteaves (*Prize*) and Whyte (*Prize*), equal; Campbell and McLea, equal; Muir, Howard, McKeracher, Keith; Boright and Reid and Smith, equal; Brittain, Lee. *Class II.*—None. *Class III.*—None.

MORRIN COLLEGE.

B.A. ORDINARY.

ASTRONOMY AND OPTICS.—*Class I.*—None. *Class II.*—Livingstone, Lindsay, Tanner. *Class III.*—None.

MECHANICS AND HYDROSTATICS.—*Class I.*—None. *Class II.*—Livingstone. *Class III.*—Lindsay, Tanner.

HEBREW.—*Class I.*—Livingstone and Lindsay, equal; Tanner. *Class II.*—None. *Class III.*—None.

MORAL PHILOSOPHY.—*Class I.*—Livingstone. *Class II.*—Tanner. *Class III.*—None.

HISTORY.—*Class I.*—Livingstone, Tanner.—*Class II.*—Lindsay.—*Class III.*—None.

INTERMEDIATE EXAMINATION.

GREEK.—*Class I.*—Harper, Lee. *Class II.*—Moffatt. *Class III.*—Fraser and Polley, equal.

LATIN.—*Class I.*—Harper. *Class II.*—Lee and Moffatt, equal. *Class III.*—Fraser and Polley, equal.

LATIN PROSE COMPOSITION.—*Class II.*—Harper. *Class III.*—Moffatt, Lee, Fraser Polley.

GEOMETRY AND ARITHMETIC.—*Class I.*—None. *Class II.*—Moffatt, Fraser. *Class III.*—Harper, Polley.

TRIGONOMETRY AND ALGEBRA.—*Class I.*—Fraser. *Class II.*—None. *Class III.*—Lee, Moffatt, Harper, Polley.

FRENCH.—*Class I.*—None. *Class II.*—Harper. *Class III.*—Moffatt, Lee, Fraser.

HEBREW.—*Class I.*—Polley (J. T.).

LOGIC.—*Class I.*—Harper, Fraser, Moffat. *Class II.*—Lee. *Class III.*—Polley.

ST. FRANCIS COLLEGE.

INTERMEDIATE EXAMINATION.

GEEEK.—*Class I.*—None. *Class II.*—Dunkerly.

LATIN.—*Class I.*—Dunkerly.

LATIN PROSE COMPOSITION.—*Class I.*—None. *Class II.*—None. *Class III.*—Dunkerly.

LOGIC.—*Class I.*—Dunkerly.

GEOMETRY AND ARITHMETIC.

Class I.—None. *Class II.*—Dunkerly. *Class III.*—None.

TRIGONOMETRY AND ALGEBRA.

Class I.—None. *Class II.*—Dunkerly. *Class III.*—None.

FRENCH.

Class I.—None. *Class II.*—Dunkerly. *Class III.*—None

STANSTEAD WESLEYAN COLLEGE.

FIRST YEAR.

GREEK.—*Class I.*—None. *Class II.*—Gustin. *Class III.*—None.

LATIN.—*Class I.*—None. *Class II.*—Gustin, McAmmond. *Class III.*—Vipond.

ROMAN HISTORY.—*Class I.*—McAmmond. *Class II.*—None. *Class III.*—Gustin, Vipond.

FRENCH.—*Class I.*—None. *Class II.*—Gustin, Vipond. *Class III.*—McAmmond.

GEOMETRY AND ARITHMETIC.—*Class I.*—Gustin, McAmmond. *Class II.*—Vipond. *Class III.*—None.

TRIGONOMETRY AND ALGEBRA.—*Class I.*—Gustin, McAmmond. *Class II.*—Vipond. *Class III.*—None.

CHEMISTRY.—*Class I.*—McAmmond, Vipond, Gustin.

ENGLISH.—*Class II.*—Gustin, McAmmond, Vipond.

FACULTY OF APPLIED SCIENCE.

GRADUATING CLASS.

JOHN MURRAY MCGREGOR.—British Association Gold Medal; First Rank Honours in Natural Science; Honours in Metallurgy, Assaying and Designing.

GEORGE SINCLAIR SMITH.—Stanley Silver Medal; Prize for Summer Report; Honours in Designing, Steam, Machine Design.

PETER HENRY LE ROSSIGNOL.—Honours in Chemistry and Assaying, Mineralogy and Metallurgy.

CHARLES B. KINGSTON.—Honours in Assaying and Metallurgy.

WILLIAM EDWARD BOUSTEAD.—Honours in Chemistry and Assaying, and Mineralogy.

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JAMES TIGHE.—Prize for Summer Report.

JAMES GEORGE R. WAINWRIGHT.—Honours in Designing.

WILLIAM HENRY WARREN.—Peter Wright First Workshop Prize.

WALTER CHAMBLET ADAMS.—Prize for Collection of Insects.

THIRD YEAR.

James Alexander MacPhail.—Scott Exhibition of $60.00; Prizes in Mathematic and Descriptive Geometry.
Louis Greenberg.—Prize in Theory of Structures; Prize for Transit Work.
Alexander Scott Dawson.—Prize for Transit Work.
David A. Murphy.—Prize in Mechanical Drawing.
Henri Herdt.—Prize in Geology.
Louis Herdt.—Prize in Theory of Structures.
James Albert Stevenson.—Prize for Levelling.

PASSED THE SESSIONAL EXAMINATIONS.

Civil Engineering.

James Alexander MacPhail, Orwell, P.E.I.;
Louis Greenberg, Montreal.
Alexander Scott Dawson, Pictou, N.S.
Thomas M. McLeod, Georgetown, P.E.I., and Leonard Lee Street, Fredericton, N.B., equal.
Arnold James Ryan Rouses Point, N.Y.
*James Albert Stevenson, South Granby, Que.
*Alphonse M. A. Robert, Ottawa.

Mechanical Engineering.

Louis Herdt, Montreal.
David A. Murphy, Montreal.
Robert Claude Holman, Summerside, P.E.I.
William Pitt Laurie, Quebec.
John Andrew Burns, Montreal.
Arthur W. K. Massey, Montreal.
Lincoln Simpson, Cavendish, P.E.I.

Mining Engineering.

Henri Herdt, Montreal; John Hamilton Featherston, Montreal.

Practical Chemistry.

Howard Turner Barnes (*aegrotat*), Montreal.

SECOND YEAR.

WILLIAM A. DUFF.—British Association Prize.

HERBERT HAROLD SHAW.—British Association Prize.

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*Supplemental in one Subject.

JOSEPH KAYE HENRY.—Prizes in Mathematics and Experimental Physics.
ARTHUR R. HOLDEN.—Prizes in Mathematics and Descriptive Geometry.
ALEXANDER BRODIE.—Prizes in Chemistry and Botany.
FRANK H. PITCHER.—British Association Prize in Chemistry.
HERBERT MOLSON.—Prizes in Botany and French.
JOHN WILLIAM MORRIS.—Prize in Mechanical Drawing.
ORTON EDWARD S. WHITESIDE.—Prizes in Zoology and Experimental Physics.
ALFRED COLLYER.—Peter Wright Second Workshop Prize.

PASSED THE SESSIONAL EXAMINATIONS.

Civil Engineering.

ROBERT A. GUNN, Montreal.
*JOHN KIMBALL SCAMMELL, St. John, N.B.

Electrical and Mechanical Engineering.

HERBERT HAROLD SHAW, Brackley Point, P.E.I.
WILLIAM ALEXANDER DUFF, Montreal.
FRANK HENRY PITCHER, Montreal.
EDWARD DARLING, Montreal.
ARTHUR R. HOLDEN, B.A., Montreal.
CHAS. HENRY B. LONGWORTH, Charlottetown, P.E.I.
JOHN WM. MORRIS, Wallace, N. S.
ARTHUR LANGLEY MUDGE, Montreal.
JOS. KAYE HENRY, B.A., Sennett, Cayuga Co., N.Y.
ALFRED COLLYER, Sussex, Eng.
LEONARD WM. E. DYER, Montreal.
JAS. SHEARER COSTIGAN, Montreal.
WALTER MOFFATT SCOTT, Charlottetown, P.E.I.
*ROBT. DAVID NAAS, Lunenburg, N. S.
JOHN HERBERT LARMONTH, Ottawa.

Mining Engineering.

ORTON EDWARD S. WHITESIDE, Metcalfe, Ont..
ARTHUR AUGUSTUS COLE, B.A., Montreal.
*WILLIAM WILSON LEACH, Montreal.

Practical Chemistry.

ALEXANDER BRODIE, Quebec.
HERBERT MOLSON, Montreal.
MATTHEW FRANCIS CONNOR, Ottawa.

*Supplemental in one Subject.

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FIRST YEAR.

ROBERT OWEN KING.—Peter Wright First Workshop Prize; Prizes in Mathematics and Chemistry.
NORMAN SCHURMAN.—Fleet First Workshop Prize.
FRANCIS ALFRED WILKIN.—Prize in Mathematics.
HUGH C. BAKER.—Fleet Second Workshop Prize; Prize in Descriptive Geometry.
RALPH BAYLIS MCDUNNOUGH.—Prize in Chemistry.
WILLIAM FORREST ANGUS.—A. Parker First Workshop Prize.
HENRY R. TRENHOLME.—A. Parker Second Workshop Prize.

PASSED THE SESSIONAL EXAMINATIONS.

Robert Owen King, Montreal.
Norman Schurman, North Bedeque, P.E I.
Ralph Baylis McDunnough, Montreal.
William Currie, Montreal.
Francis Alfred Wilkin, Calgary, N.W.T.
*George Dewar McDougall, Amherst, N.S.
Wm. Frederick Carter, Cowansville, Que.
Wm. Forrest Angus, Montreal.
Orobio Chandler Hart, Cowansville.
Frederick Simeon Clements, Upper Kingsclear, N.B.
Hugh C. Baker, Montreal.
Alexander R. Greig, Montreal.
Alfred Scott, Port Hope.
John Primrose, Pictou, N.S.
Sampson Paul Robins, Montreal.
*Thomas Henry Plummer, Toronto.
John Cole Gwillim, Winnipeg.
*Frederick Mark Becket, Montreal.
Henry R. Trenholme, Trenholmeville, Que.
Thos. Henry Metcalfe, Montreal.
*Michael Edward Griffin, Georgetown, P.E.I., and Kenneth Moodie Chesterville, Ont., equal.
Peter McNaughton, Huntingdon.
*Geo. Nelson Boright, Sutton.
*Frank Doughty Rogers, Montreal, and *Walter Thos. White, St. John, N.B., equal.
Edward Preston Johnson, Ottawa.
*William Robert Askwith, New Edinburgh, Ont.
*George Ralston Balloch, Centreville, N.B.
*Walter McHenry Olive, St. John, N.B.
*Robert Lennox Blackburn, Ottawa.

*Supplemental in one Subject.

STANDING IN THE SEVERAL SUBJECTS.

SUMMER WORK.

FOURTH YEAR.—*Class I.*—Tighe (*Newark, N. J., Waterworks*), Smith (G. S.) (*Passenger Car Construction*); Kingston (*Miscellaneous notes*) and Le Rossignol (*Pectin, the Jellying Principle in Fruits*), equal; Adams (*Gold-mining in the U.S.*). *Class II.*—Bolton (*Land Drainage*) and Cunningham (*Homogeneous Iron*) and McGregor (*Exploratory methods in B.C.*) and Wainwright (*Railway Construction*), equal; Klock (*Nickel*) and Stuart (*Native Copper Deposits on Lake Superior*), equal; Copeland (*Montreal & Western Railway*) and Purves (*Mine Accidents*), equal. *Class III.*—Warren (*Electric Railway of to-day*); Murphy P. J. (*Calcination of Lime*) and Stuart (*Electricity as a motive power*), equal.

THIRD YEAR.—*Class I.*—Burns (*Corliss Engine*); Dawson (*Changes in Line of C.P.R.*) and McPhail (*Road-making*), equal. *Class II.*—McLeod (*Construction of Common Roads*), Laurie (*Vice-work*), Featherstone (*Concrete and Masonry*); Herdt (H.) (*Phosphate Mines*) and Herdt (L.) (*Glass Manufacture*) and Rankin (*Hydrographic Survey*) and Simpson (*Foundry-work*) and Stevenson (*Wood and Iron*), equal, *Class III.*—Bowden (*Aerial Navigation*) and Ryan (*Portland Cement*). equal; Barnes (*Electrical Exhibition*) and Greenberg (*Transit and Theodolite*), equal; Massey (*Electric Motors*) and Murphy (D.A.) (*Electrical Exhibition*), equal; Holman (*Electrical Units*).

DESIGNING.

FOURTH YEAR.—*Civil Engineering Course.—Class I.*—Wainwright, Tighe. *Class II.*—Bolton, Stuart, Murphy (P.J.), Copeland. *Class III.*—None.

Mechanical Engineering Course.—Class I.—Smith (G. S.), Warren. *Class II.*—Cunningham, Smart.

Mining Engineering Course.—Class I.—McGregor, Kingston, Purves.

MACHINE DESIGN.

FOURTH YEAR.—*Class I.*—Smith (G.S.), Warren. *Class II.*—Cunningham. *Class III.*—Smart.

STEAM.

FOURTH YEAR.—*Class I.*—Smith (G. S.), Cunningham, Kingston, McGregor. *Class II.*—Bolton, Tighe; Wainwright and Warren, equal; Murphy (P. J.) and Purves, equal; Stuart. *Class III.*—Copeland, Smart.

THEORY OF STRUCTURES.

FOURTH YEAR.—*Class I.*—None. *Class II.*—Tighe, Wainwright, Stuart; Bolton and Copeland, equal. *Class III.*—Murphy (P.J.).

THIRD YEAR.—*Class I.*—Greenberg, Herdt (L.), MacPhail. *Class II.*—Herdt (H.), Holman, Murphy (D.A.), Street, McLeod. *Class III.*—Featherston, Laurie, Ryan, Stevenson, Massey, Simpson, Burns, Robert,* Rankine.*

*Supplemental in one Subject.

Y THEOR OF STRUCTURES (*Advanced Course*).

THIRD YEAR.—(*In order of merit*).—Greenberg, MacPhail, Dawson, McLeod and Street, equal.

HYDRAULICS.

FOURTH YEAR.—*Class I.*—Smith (G. S.) and Kingston, equal; McGregor and Wainwright, equal. *Class II.*—Bolton, Cunningham, Tighe. *Class III.*—Copeland; Smart and Stuart, equal; Purves, Murphy (P.J.), Warren.

DESCRIPTIVE GEOMETRY.

THIRD YEAR.—*Class I.*—McPhail, Greenberg. *Class II.*—Street, McLeod; Rankine and Stevenson, equal. *Class III.*—Bowden, Dawson, Ryan, Robert.

SECOND YEAR.—*Class I.*—Holden, Shaw, Duff, Pitcher. *Class II.*—Collyer, Cole, Connor, Longworth, Darling; Molson and Morris and Mudge, equal; Leach, Henry. *Class III.*—Brodie and Costigan and Scott, equal; Scammell, Whiteside, Dyer, Gunn, Naas, Larmonth.

FIRST YEAR.—*Class I.*—Baker, McDougall, Schurman, King, McDonnough, Greig. *Class II.*—Skill; Balloch and Plummer and Gwillim, equal; Currie; Carter and Griffin and Robins, equal; Scott, Wilkin. *Class III.*—Primrose, Boright, Angus, Johnson, White (W. T.), Moodie, Askwith, Clements; Buchanan and McNaughton and Metcalfe and Rogers and Trenholme (H. R.), equal.

FREEHAND DRAWING.

FIRST YEAR.—*Class I.*—King and Plummer, equal; Schurman; Robins and Primrose, equal. *Class II.*—Angus and Currie and White, equal; Balloch; Purves and Johnson, equal; McDougall; Boright and Moodie, equal; Becket and Griffin and Gwillim and Skill, equal; Aveling and Girdwood and McDunnough and Nivin, equal; Baker and Buchanan and Metcalfe and Scott, equal; Clements and Carter, equal; Rogers; Dougall and Hart and McBean and Van Barneveld, equal; Cushing and Jacobie, equal; Blackburn and McKenzie and Wilkin, equal; Hutchison, Olive, *Class III.*—Greig, Trenholme, Askwith, McNaughton, Jones, Fairman.

SURVEYING.

SECOND YEAR.—*Class I.*—Cole. *Class II.*—Whiteside; Gunn and Scammell, equal; *Class III.*—Dudderidge; Leach and Lorway, equal.

SURVEYING AND PRACTICAL ASTRONOMY.

THIRD YEAR.—*Class I.*—McPhail, Greenberg. *Class II.*—Dawson, Rankin, Street, McLeod. *Class III.*—Stevenson, Ryan, Bowden, Robert.

GEODESY.

FOURTH YEAR.—*Class II.*—Stuart, Bolton; Tighe and Wainwright, equal; Murphy. *Class III.*—Copeland.

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* To pass a supplemental examination in the subject matter of Paper II.

ASSAYING.

FOURTH YEAR.—(*Mining Course.*)—*Class I.*—McGregor, Kingston. *Class II.*—Purves.

METALLURGY.

Class I.—McGregor, Le Rossignol, Kingston, Boustead, Purves.
Class II.—Adams, Klock.

MINING.

Class II.—H. Herdt.
Class III.—Featherston.

CHEMISTRY (*General*).

FIRST YEAR.—*Class I.*—Carter and King, equal; Hart and Wilkin, equal. *Class II.*—McDunnough, Gwillim; Schurman and Skill, equal; Askwith Becket; Scott and Trenholme, equal; Greig and McDougall, equal; Currie, Aveling, Primrose. *Class III.*—McNaughton, Clements; Angus and Baker and Jones and Olive, equal; Balloch, Robins, Metcalfe; Cochrane and Johnson, equal; Blackburn and Moodie, equal.

CHEMISTRY (*Practical*).

FOURTH YEAR.—(*Chemistry course*)—*Class I.*—Le Rossignol, Bonstead, Adam. *Class II.*—Klock.

THIRD YEAR.—(*Mining course*)—*Class I.*—Herdt. *Class II.*—None. *Class III.*—Featherstone.

SECOND YEAR.—(*Chemistry course*).—*Class I.*—Brodie. *Class II*—Molson, Connor (*Mining course*).—*Class I.*—None. *Class II.*—Whiteside, Cole.

FIRST YEAR.—*Class I.*—McDunnough, Clements, King, Becket, Wilkin; Aveling and Skill and Trenholme, equal; Cochrane, McDougall, Hart. *Class II.*—Currie and Robins and Schurman, equal; Van Barneveld; Greig and Moodie, equal; Angus and Baker, equal; Carter; Johnson and Metcalf and Nivin, equal; Rogers, Scott, Primrose, Cushing; Griffin and Olive, equal; Girdwood and McNaughton, equal; Clark. *Class III*—Blackburn and White, equal; Boright and McBean, equal; Askwith, Jacobie. Jones; Dougall and Gwillim, equal; Balloch and Davis, equal.

CHEMISTRY (*Inorganic*).

FOURTH YEAR.—(*Chemistry course*).—*Class I.*—Le Rossignol, Boustead. *Class II.*—None. *Class III.*—Adams, Klock.

SECOND YEAR.—(*Chemistry course*).—*Class I.*—Brodie. *Class II.*—Molson, Connor.

CHEMISTRY (*Organic*).

FOURTH YEAR.—(*Chemistry course*).—*Class I.*—Le Rossignol, Boustead, Adams. *Class II.*—None. *Class III.*—Klock.

MECHANISM.

SECOND YEAR.—*Class I.*—Shaw; Henry and Pitcher, equal. *Class II.*—Darling and Holden and Longworth, equal; Duff; Collyer and Mudge, equal; Morris; Dyer and Scott, equal. *Class III.*—Naas; Costigan and Larmonth, equal.

DYNAMICS OF MACHINERY.

THIRD YEAR.—*Class I.*—Herdt (L.), Murphy (D. A.). *Class II.*—Burns. *Class III.*—Laurie; Holman and Simpson, equal; Massey.

ESSAY.

FOURTH YEAR.—(*Civil Engineering*).—*Class I.*—None. *Class II.*—Murphy (P. J.) and Tighe, equal; Bolton and Wainwright, equal. *Class III.*—Copeland and Stuart, equal.

FOURTH YEAR.—(*Mechanical Engineering*).—*Class I.*—Smith; Cunningham and Warren, equal. *Class II.*—Smart.

FOURTH YEAR.—(*Mining Engineering*).—*Class I.*—McGregor, Kingston. *Class II.*—Purves.

FOURTH YEAR.—(*Practical Chemistry*).—*Class I.*—Le Rossignol, Klock.—*Class II.*—Boustead, Adams.

THIRD YEAR.—*Class I.*—Herdt (L.); MacPhail and Murphy (D. A.), equal. *Class II.*—Greenberg and Rankin and Robert, equal; Featherston; Burns and Herdt (H.) and Holman and Laurie and Massey and Simpson, equal; McLeod and Stevenson and Street, equal; Bowden and Ryan, equal.

SECOND YEAR.—*Class I.*—Brodie and Cole and Connor and Henry and Longworth and Molson, equal. *Class II.*—Shaw, Pitcher; Darling and Holden and Morris and Mudge and Scammell and Dyer, equal; Gunn and Naas, equal; Collyer and Costigan and Duff and Larmonth and Whiteside, equal. *Class III.*—Scott, Leach.

GEOLOGY (*Advanced*).

FOURTH YEAR.—*Class I.*—McGregor. *Class II.*—None. *Class III.*—Kingston, Purves.

GEOLOGY.

FOURTH YEAR.—*Class I.*—LeRossignol, Boustead, Adams, Klock.

THIRD YEAR.—*Class I.*—Lambert, Herdt (H.), Featherston, Dawson. *Class II.*—Greenberg and McLeod, equal; Street, McPhail. *Class III.*—Ryan, Bowden, Robert, Stevenson.

ZOOLOGY AND PALAENTOLOGY.

Class I.—Whiteside. *Class II.*—Scammell, Gunn, Leach, Dudderidge.—*Class III.*—Lorway.

BOTANY.

SECOND YEAR.—*Class I.*—Brodie, Molson. *Class II.*—Connor.

MATHEMATICS.

THIRD YEAR.—*Class I.*—MacPhail, Holman, Greenberg. *Class II.*—Herdt (L.), Street, McLeod, Dawson, Murphy (D.), Laurie. *Class III.*—Herdt (H.), Burns; Featherston and Simpson, equal; Ryan, Massey, Robert.

SECOND YEAR.—(*Engineering Students*).—*Class I.*—Henry, Holden, Duff, Whiteside, Pitcher, Shaw, Darling. *Class II.*—Longworth, Mudge, Morris, Cole. *Class III.*—Scott, Leach, Larmonth, Dyer, Dudderidge, Naas, Collyer, Costigan, Gunn.

SECOND YEAR.—(*Chemistry Students*).—*Class I.*—Molson. *Class II.*—Brodie. *Class III.*—Connor.

FIRST YEAR.—*Class I.*—Wilkin, King, Angus, Schurman, McDougall, Clements McDunnough, Currie. *Class II.*—Hart, Carter, Baker, Scott, Greig, Primrose. *Class III.*—Blackburn and Metcalfe, equal; Griffin, Robins, Rogers, White; Boright and McNaughton, equal; Olive, Van Barneveld, Gwillim, Becket, Trenholme, Balloch, Plummer, Moodie, Askwith, Nivin, Johnson.

EXPERIMENTAL PHYSICS (*Light and Heat*).

THIRD YEAR.—*Class I.*—MacPhail, Dawson. *Class II.*—None. *Class III.*—Greenberg, Herdt (Louis), Holman; Bowden and Murphy, equal; Massey, Laurie; Herdt (H.) and Ryan, equal; Burns.

SECOND YEAR.—*Class I.*—Whiteside, Henry, Duff, Pitcher, Cole, Molson, Morris. *Class II.*—Connor, Shaw, Brodie; Collyer and Mudge, equal; Holden, *Class III.*—Dyer, Scammell, Darling, Scott, Street, Gunn; Costigan and Leach and Longworth, equal; Larmonth.

ENGLISH.

SECOND YEAR.—*Class I.*—Molson, Mudge, Pitcher; Duff and Leach and Shaw, equal. *Class II.*—Scott, Whiteside, Darling. *Class III.*—Morris and Naas, equal; Larmonth and Longworth, equal; Gunn; Brodie and Collyer, equal; Dyer and Lorway, equal; Costigan and Dudderidge, equal; Mooney.

FIRST YEAR.—*Class I.*—Skill, Carter, McDunnough, Currie, Nivin; Rogers and Wilkin, equal; Hutcheson; Buchanan and Plummer, equal. *Class II.*—Askwith, Hart, Griffin, Aveling, King; Baker and Robins, equal; Becket and Boright, equal; McNaughton and Primrose, equal; Greig and Moodie, equal; Clements and Cushing and Trenholme, equal. *Class III.*—Jones and Purves and Schurman, equal; Blackburn and McBean and Metcalfe and Olive, equal; Angus and Johnson and Scott equal; Van Barneveld, McDougall, White (W. T.), Dougall, Balloch Clark, Fairman, Jacobie, Loeb.

ENGLISH LITERATURE.

SECOND YEAR.—*Class II.*—Connor, Scammell.

FIRST YEAR.—*Class II.*—Gwillim.

FRENCH.

SECOND YEAR.—*Class I.*—Molson, Brodie, Shaw. *Class II.*—Pitcher, Duff. *Class III.*—Darling, Scott, Longworth, Costigan, Gunn, Collyer, Leach Dyer, Mudge.

FIRST YEAR.—*Class I.*—McDunnough. *Class II.*—Van Barneveld, Carter, Currie Hart, King. *Class III.*—Robins and White, equal; Trenholme; Angus and Boright, equal; McNaughton, Metcalfe.

GERMAN.

FIRST YEAR.—*Class I.*—Schurman, Skill. *Class II.*—Becket, Gwillim. *Class III.*—Primrose, Scott, Nivin, Moodie, Clements, Rogers; Wilkin and Dudderidge, equal; Johnson, Greig, Griffin; Olive and Baker, equal.

SECOND YEAR.—*Class I.*—Connor. *Class II.*—None. *Class III.*—Whiteside Scammell, Lorway, Morris, Naas.

WORKSHOPS.

FIRST YEAR.—*Class I.*—Schurman; Girdwood and Griffin, equal; Plummer and Robins, equal; Moodie; Baker and Jacobie, equal; King, White (W. T.); Boright and McBean, equal; Blackburn and Currie and McKenzie, equal; Angus and Nivin and Rogers, equal. *Class II.*—Greig and Johnson, equal; Mackay, Fairie; Gwillim and McDougall, equal; Gamba; Olive and Primrose and White (F. H.), equal; Becket and Fairman and Trenholme (A.), equal; Saunderson, Cushing, Trenholme (H. R.), Buchanan; Carter and Metcalfe, equal; Clark and Scott and Skill, equal. *Class III.*—Hart and Wilkin, equal; Balloch and Clements, equal; Hutcheson and Purves, equal; Davis and Dougall, equal; Aveling, Loeb; Barclay (First Term), Van Barneveld, Cochrane; Jones and Trenholme (N. M.) and Ward, equal.

SECOND YEAR.—*Class I.*—Collyer, Costigan, Naas, Morris; Duff and Dyer, equal; Larmonth. *Class II.*—Shaw, Cole, Darling, Longworth, Mudge, Scammell, Henry, Holden, Mooney. *Class III.*—Gunn, Whiteside, Pitcher, Leach, Scott.

THIRD YEAR.—*Class I.*—Burns and Murphy (D. A.), equal; Laurie. *Class II.*—Massey, Simpson, Herdt (L.). *Class III.*—Holman.

FOURTH YEAR.—*Class I.*—Warren, Smith (G. S.). *Class II.*—Smart. *Class III.*—Cunningham.

Students of the University.

SESSION 1891-92.

McGILL COLLEGE.

FACULTY OF LAW.

FIRST YEAR.

Cox, Wm. H., B.A., (Lav.), Montreal, Q
Dunlop, John, Montreal, Q
Gamble. W., B.A.,(Victoria) Lachine, Q
Hogie, Arthur, Sherbrooke, Q
Internoscia, Jerome, Bapolla, Italy
Jones, Arthur, Richmond, Q
Lebeuf, Lorenzo Prince, Batiscan, Q
MacDougall, G. W., B.A., Montreal, Q
Ringland, Jos. Shanagan, Ireland
Sawyer, Bannell, Rodden, Q
Sheridan, Philip, Montreal, Q
Walsh, J. C , B.A. (Laval), Montreal, Q
Whelan, J. P.,B.A.(Laval),Montreal, Q

SECOND YEAR.

Cameron, J. Alex., B.A., Huntingdon,Q
Curran, Francis Joseph, Montreal, Q
Davidson, Peers, B.A., Montreal, Q
Geoffrion, Aimé, Montreal, Q
Glass, Lewis Gordon, Woodstock, N.B
Hall, Alex. Rives, B.A., Toronto, Ont
Harwood, Chas. Aug., Vaudreuil, Q
Jacobs, Samuel W., Lancaster, Ont
Johnson, Alex. Ron., B.A., Montreal, Q

THIRD YEAR.

Ryan, Percy C., Ottawa, Ont
Truell, Harry V., Barnstown, Q
Hutchison, Robert B., Montreal, Q

PARTIAL AND OCCASIONAL.

Cleveland, J. Blake, Coaticooke, Q
Lamoureux, Emile, St. Sebastien, Q

Graduates attending Classes:

Hatchette, F. J., B.C.L., Montreal, Q
Hibbard, F. W., B.A., B.C.L., Dublin, I
McKercher, John, B.C.L., Montreal, Q
Patterson, Wm., B.A., Ormstown, Q

FACULTY OF MEDICINE.

FIRST YEAR.

Alexander, C. C., Fredericton, N.B
Allen, J. H., West Osgoode, Ont
Anthony, L. X., Berwick, N.S
Anderson, D. P., New Liverpool, Q
Bailey, J. W., Northfield, Minn.
Baskin, J. T., Dunrobin, O
Beatty, E. D., Nepean, O
Bishop, C. W., Montreal, Q.
Blow, T. H., South Mountain, O
Bonck, C. W., Inkerman, O
Boucher, R. B., Peterboro, O
Burfield, J. C., Toronto, O

Carron, F. B., Brockville, O
Chapman, H., Port Elgin, O
Church, A. H., Montreal, Q
Clark, J. A. M., Ridgetown, O
Commins, E., St. Stephen, N.B
Converse, R. D., Rindge, N.H
Cowie, W., Montreal, Q
Cruikshank A., Inverness, Q
Currie, J. A., Pictou, N.S
Day, J. L., Montreal, Q
Dewar, J., Glensandfield, O
Edmison, J. H., Rothsay, O
Elliott, A. S., Milton, O
Ewan, R. B., Montreal, Q
Feader, W. A., Iroquois, O
Foss, A. F., Sherbrooke, Q
Fox, C. H., Oxley, O
Fraser, A. D., Hawkesbury, O
Gallant, St. C. G., Charlottetown, PEI
Gardner, J. G., Montreal, Q
Garrett, L., Montreal, Q
Gleason, J. H., Cowansville, Q
Grant, J., Pictou, N.S
Gunn, W. T., Montreal, Q
Hamilton, R., Bright
Hargrave, J. L., Rosedale, Man
Harwood, R. deL., Vaudreuil, Q
Hogg, L., Winnipeg, M
Hogle, J. H., Montreal, Q
Hughson, B. E., Blenheim, O
Johnson, M. H., Madoe, O
Johnston, F. E. L., Delaware, Q
Keith, H. W., Havelock
Kerry, R. A., Montreal, Q
King, J. H., Chipman, N.B
Knapp, H. T., Sackville, N.B
Lambly, W. D., Inverness, Q
Le Rossignol, W. J., Toronto, O
Leslie, P. C., Montreal, Q
Link, D. A., Gravenhurst, O
Lovejoy, J. S., Montreal, Q
McDermott, J. W., Egansville
McLeay, K. L., Montreal, Q
MacLeay, A. A., Montreal, Q
McKinnon, —, Park Hill, O
McNally, G. J., Queensburg, N.B
McGannon, A. B., Brockville, O
McRossie, T. D., Napanee, O
Mallock, N., Kenmore, O
Mason, R., Dalesville, Q
May, G. F., Stanford, Dingley
Merrick, J. H., Merrickville
Mowatt, W., Montreal, Q
Neill, R. W., Aylmer, Q
Oliver, W., Rockburn, Q
Oliver, G. W., Montreal, Q
Oppenheimer, S. S., Vancouver, C.B
Patrick, D., Montreal, Q
Phelps, S. E., Montreal, Q
Price, B. S., Springfield, N.B
Proctor, A. B., Alberni, B.C
Ragotte, E. C. F., Montreal, Q
Reilly, W. G., Ottawa, Ont
Robertson, J. E., Morrisburg, Q
Ryan, E. J., Montreal, Q
Ryan, J. P., Portage la Prairie
St. Pierre, A. D., Ripon
Saunders, E., Woodstock, N.B
Shaw, H. M., Berwick, N.S
Slack, F. J., Waterloo
Smith, A. D., New York
Smith, S. R. B., Brighton, O
Stevens, E. P., Knowlton, Q
Tansey, T. D., Montreal, Q
Tees, J., Montreal, Q
Thomson, F. L., Mitchell, O
Vipond, C. W., Montreal, Q
Walker, D. F., Ormstown, Q
Watson, J. H., Barbadoes, W.I
Wickham, W. W., Summerside, P.E.I
Williams, J. A., Carleton Place, O
Wood, D. M., Kenmore, O
Wright, H. A. K., Montreal, Q

SECOND YEAR.

Ault, O. R.,	Tilsonburg, O	Goltman, A.,	Montreal, Q
Bazin, A. T.,	Montreal, Q	Gorrell, C. W. F.,	Brockville, O
Brown, G. T.,	Cantley, Q	Hamilton, W. F.,	Peterboro, O
Byers, W. G. M.,	Ganonoque, O	Hamilton, G.,	Bright, O
Campbell, R. M.,	Montreal, Q	Hannington, J. P.,	Shediac, N.B
Conner, W.,	Minneapolis, Minn	Hart, E. C.,	Baddeck, N.S
Crocket, A. P.,	Fredericton, N.B	Henderson, W.,	Dickinson, O
Davidson, A.,	Burns, O	Holohan, P. A.,	Newcastle, N.B
Davis, R. E.,	Fallowfield, O	Hepburn, C.,	Montreal, Q
Drysdale, W. F.,	Perth, O	Irving, E.,	Pembroke, O
Evans, J. W.,	Chelsea, O	Jacques, H. M.,	Upper Dyke, N.S
Ferguson, W.,	Pictou, N.S	Kearns, J F.,	Metcalfe, O
Flinn, J. W.,	Wallace, N.S	Kinghorn, H. M.,	Montreal, Q
Fowler, E S,	Perth, O	Lanterman, M.,	Montreal, Q
Fry, J. M.,	Montreal, Q	Lineham, D. M.,	Newry, O
Gilman, F. M.,	Tusket, N.S	Lochead, J.,	Parkhill, O

MacCarthy, G. S.,	Ottawa, O
McCrea, J. J.,	Laggan, O
McLaren, J. F.,	Belle Creek, P.E.I
McLaughlin, J. A.,	Avonmore, O
MacLean, C. M.,	Cambridge, N.B
McIntosh, L. Y.,	Strathmore, O
McKenzie, L. F.,	Montreal, Q
Macrea, G. B.,	Montreal, Q
Manchester, G. H.,	Ottawa, O
Mathewson, G. H.,	Montreal, Q
Meikle, R. H.,	Lachute, Q
Mitchell, W.,	Lachute, Q
Montgomery, T. E.,	Phillipsburg, Q
Nicholls, A. G.,	Montreal, Q
O'Connor, E. J.,	Ottawa, O
Pritchard, J.,	North Wakefield, O
Quirk, E. McG.,	Mile End, Q
Richardson, A.,	South March, O
Richardson, H. G.,	Chesterville, O
Rimir, F. E.,	Bryson, Q
Robertson, A. A.,	Montreal, Q
Ross, D. W.,	Grand Falls, N.B
Ross, H.,	Thorborn, O
Sharpe, E. M.,	Butternutt Ridge, N.B
Shaw, H. S.,	Montreal, Q
Shillington, A. T.,	Kemptville, O
Spring-Rice, T. A.,	Montreal, Q
Stearns, O. V.,	Montreal, Q
Stenning, W. A.,	Coaticock, Q
Summers, A. A.,	Aultsville, O
Walsh, A. W.,	Huntingdon, Q
Watson, R. L.,	Montreal, Q
Wolf, C. G. L.,	Winnipeg, Man
York, H. E.,	Metcalfe, O

THIRD YEAR.

Aylen, E. D.,	Aylmer, Q
Barrett, H. H.,	Three Rivers, Q
Blunt, R. W.,	Montreal, Q
Bostwick, W. E.,	Detroit, Mich
Brown, J. A.,	Sarnia, O
Cameron, J. D.,	L'Orignal, O
Carroll, R. W.,	Stratford, O
Cooper, M. A.,	Ormstown, Q
Deeks, W. E.,	N. Williamsburgh, O
Dewar, A. T.,	Sarnia, O
Dewar, G. F.,	Ormond, O
DuVernet, E.,	Gagetown, N.B
Esty, A. S.,	Keswick Ridge, N.B
Fleming, G. W.,	Chipman, N.B
Feron, F. M.,	Montreal, Q
Goff, H. N.,	Woodmill, P.E.I
Gunter, F. B.,	Fredericton, N.B
Haight, M.,	New Durham, O
Hall, M. R.,	Franklin Centre, Q
Henderson, J. A.,	Orangeville, O
Huretson, S. W.,	Georgetown, O
Hume, G. W.,	Leeds, O
Jakes, R. W.,	Merrickville, O
Jamieson, W. H.,	Montreal, Q
Kiteley, –,	Stirton, O
Lambly, W. O.,	Montreal, Q
Lawrence, J. W.,	Lower Dumfries, N.B
Lewis, J. T.,	Hillsboro, N.B
Lindsay, W.,	St. Mary's, O
McArthur, A. D.,	Kenmore, O
MacKay, R. B.,	Toronto, O
McKenzie, R. J.,	Melbourne, Q
McKenzie, S. R.,	Montreal, Q
McLennan, K.,	Dunvegan, O
McMillan, W.,	Alberry Plains, P.E.I
McMorrin, R. F.,	Richmond, Q
McNaughton, J. A.,	Cornwall, O
Masten, C.,	Montreal, Q
Matheson, R.,	Cardigan, P.E.I
Mills, W. C.,	Montreal, Q
Morris, F. X.,	Fairville, N.B
Ogden, C. L.,	Warrenburg, N.Y
Parker, G. W.,	Cardigan, P.E.I
Robinson, H. J.,	Brockville, O
Rodger, D. A.,	Genoa, Q
Rorke, R. F.,	St. Thomas, O
Seaton, J. S.,	St. John, N.B
Seguin, J. W. A.,	Rigaud, O
Scammell, J. H.,	St. John, N.B
Scane, J. W.,	Chatham, O
Scott, H. W.,	Owen Sound, O
Semple, E. J.,	Montreal, Q
Shaw, G. F.,	Ottawa, O
Shaw, T. P.,	Montreal, Q
Tomkins, J. E. C.,	Coaticook, Q
Trenholm, G. A.,	Coaticook, Q
Walker, J. L.,	Montreal, Q
Whyte, J. T.,	Ottawa, O
Wilson, R. D.,	Derby, N.B
Wilson, Robert,	Montreal, Q
Yearwood, C.,	Barbadoes, W.I

FOURTH YEAR.

Akerley, A. W. K.,	Fredericton, N.B
Berwick, G. A.,	Farnham, Q
Binmore, J. E.,	Montreal, Q
Bowen, G. A.,	Compton, Q
Boyce, B. F.,	Norham, Ont
Brown, F. W. A.,	Brockville, Ont
Browse, J. E.,	Brockville, Ont
Brunette, J. T.,	Cornwall, Ont
Bruce, D. A.,	Grand View, P.E.I
Carmichael, H. B. W.,	Montreal, Q
Chabot, J. L.,	Ottawa, Ont
Chipman, R. J.,	Halifax, N.S
Coburn, A. D.,	Keswick Ridge, N.B
Day, A. R. A.,	Guelph, Ont
Duncan, G. H.,	Russell, Ont
Ellis, W. L.,	St. John, N.B

Fulton, C.,	Avonmore, Ont	Martin, C. F.,	Montreal, Q
Fulton, J. A.,	Franklin Centre, Q	Martin, S. H.,	Savage's Mines, Q
Girdlestone, C. W.,	Winnipeg, Man	Massiah, W. B. H.,	Barbados, W.I
Glendenning, R. T.,	Truemanville, N.S	Meade, C. J.,	St. Paul, Minn
Graham, W. C.,	Prescott, O	Meikle, W. F.,	Morrisburg, O
Grant, H. A.,	Pembroke, O	Moore, J. W.,	Belleville, O
Halliday, V.,	Peterboro, O	Neill, J.,	Aylmer, Q
Hayes, P. J.,	Nelson, N.B	Outwater, S.,	Plainfield, O
Henderson, J.,	Warkworth, O	Paterson, L.,	Harbour Grace, Nfld
Hogg, D. H.,	Winnipeg, Man	Peake, J. P.,	Fredericton, N.B
Internoscia, A.,	Montreal, Q	Phelan, E. D.,	Montreal, Q
Jack, Du V.,	Fredericton, N.B	Phillmore, R. H.,	Cookshire, Q
Jameson, T.,	Rochester, N.Y	Robinson, B. E.,	Orillia, O
Johnston, A.,	Ottawa, O	Rogers, W.,	Montreal, Q
King, H. S.,	Sarnia, O	Smith, W. H.,	Winnipeg, Man
Lang, F. W.,	St. Mary's, O	Taplin, M. M.,	Addison, O
Langley, A. F.,	Victoria, B.C	Taylor, T. T.,	Chatham, O
McCann, A. E. A.,	Montreal, Q	Taylor, J. N.,	Ottawa, O
Mackay, D. G.,	Clifton, P.E.I	Thompson, J.,	Moulinette, O
McKenty, J. E.,	Montreal, Q	Wade, A. S.,	Perth, O
McKenzie, R. T.,	Almonte, O	Walsh, T. W.,	Ormstown, Q
McKinnon, O. T.,	Kinross, P.E.I	Walsh, W. E.,	Ormstown, Q
McLennan, D. A.,	Fournier, O	Walker, W. G.,	Stratford, O
McNally, H. H.,	Fredericton, N.B	Wasson, H. J.,	Peterboro, O
Mair, A. W.,	Clinton, O	Yates, H. B.,	Brantford, O

FACULTY OF ARTS.

Undergraduates.

FIRST YEAR.

Name.	*School.*	*Residence.*
Armstrong, E. N.,	M.H.S.,	Montreal, Q
Ascah, A. C.,	Montreal Dio. Theo. College,	Gaspé, Q
Burnet, Arthur,	Grande Ligne Institute,	Farnham Centre, Q
Campbell, G. Ernest,	Huntingdon Academy,	Ormstown, Q
Crombie, Wm. B.,	Smithville H. S.,	Fort Coulange, Q
Davidson, Shirley,	M.H.S.,	Montreal, Q
Dyer, Edward,	Sutton Model School,	Sutton, Q
Fourney, F. K.,	M.H.S.,	Montreal, Q
Hamilton, W. J.,	Woodstock Collegiate Institute,	Milverton, O
Hickson, James C.,	Eliock School,	Montreal, Q
Hime, Chas. R.,	Foyle College, Ireland,	Montreal, Q
Howard, E. Edwin,	Inverness Academy,	Farnham, Q
Irvine, Austin D.,	Private Tuition,	Cote St Antoine
Keith, Neil D.,	Glencoe H. S.,	Glencoe, O
Lennon, Walter S.,	Wesleyan Theological College,	Montreal, Q
LeRoy, O. E.,	Lachute Academy,	St. Andrews, Q
McEwen, Duncan,	Private Tuition,	Glengarry, O
McEwan, Samuel R.,	Diocesan College,	Rawdon, Q
MacIntosh, James,	Private Tuition,	Mount Pleasant, P.E.I.
McIntosh, Major,	Prince of Wales College, P.E.I.,	Summerside, P.E.I.
McNaughton, Francis,	Huntingdon Academy,	Huntingdon, Q
Mansfield, E. D.,	Cowansville School,	Cowansville, Q
Mason, Robert,	Lachute Academy,	Dalesville, Q
Milloy, James G.,	Glencoe,	Crimea, O
Mitchell, Albert T.,	Diocesan Theological College,	Montreal, Q
Mount, A. E.,	Diocesan Theological College,	Montreal, Q

Name	*School.*	*Residence.*
Pettes, Dan. H.,	Knowlton Academy,	West Brome, Q
Rogers, Reginald H.,	Prince of Wales College, P.E.I.,	Alberton, P.E.I.
Shaw, James M.,	Private Tuition,	Cote St. Antoine
Shepherd, Wm. G.,	Sarnia H. S.,	Uttoxeter, O
Smyth, W. Oswald,	M.H.S.,	Montreal, Q
Sutherland, Wm. C.,		
Symmes, Thos. J.,	Aylmer Academy,	Alymer, Q
Terryberry, Arthur I.,	Barton College Institute,	Hamilton, O
Tooke, Fred. T.,	M.H.S.,	Montreal, Q
Trenholme, Norman M.,	M.H.S.,	Montreal, Q
Wallace, James M.,	Kemptville H.S.,	North Gower, O
Watt, James C.,	Almonte H.S.,	Lanark, O
Weir, George,	Woodstock College Institute,	Eastwood, O
White, Frank H.,	Bishop's College School,	Montreal, Q
Worth, Fulton,	Pictou Academy, N.S.,	New Westminster, B.C.
Young, Henry,	Almonte H.S.,	Blakeney, O
Young, Stephen,	Almonte H.S.,	Blakeney, O

SECOND YEAR.

Name.	*School.*	*Residence.*
Barlow, Walter L.,	M. H. S.,	Montreal, Q
Bickerdike, F. A. C.,	Private tuition,	Montreal, Q
Blackett, John,	Huntingdon Acad.,	Ormstown, Q
Bond, Wm. L.,	M. H. S.,	Montreal, Q
Boyd, Leslie H.,	M. H. S.,	Montreal, Q
Bremner, William,	Ottawa Collegiate Institute,	Ottawa, O
Craig, Wm. W.,	M. H. S.	Montreal, Q
Dickson, Ed. H. T.,	Private tuition,	Trenholmeville, Q
Dickson, Sydney M.,	St. Francis College,	Trenholmeville, Q
Davis, David T.,	M. H. S.,	Montreal, Q
Day, Frank J.,	Private tuition,	Belleville, O
Duclos, Arnold Wm.,	M. H. S.,	Montreal, Q
Fraser, Frank C.,	M. H. S.,	Montreal, Q
Garret, W. P.,	Trinity College, Toronto,	Ottawa, O
Graham, Angus,	Glencoe H. S.,	Glencoe, O
Graham, Fred. H.,	Liverpool College,	Iron Hill, Q
Hanran, Robt., J.,	Inverness Academy,	Inverness, Q
Harvey, Fred W.,	Sutton Model School,	Abercorn, Q
Howell, Wm.,	St. John's School,	Montreal, Q
Ireland, G. D.,	Prince of Wales Coll., P.E.I.,	Alberton, P.E.I.
Lambly, M. O.,	Wesleyan Theological College,	Inverness, Q
Lewis, Wm. P.,	St. John's H. S.,	Iberville, Q
McGregor, Alexander,	Lachute Academy,	St. Andrews, Q
McKeracher, W.,	M. H. S.,	Howick, Q
Naylor, Henry A.,	Shawville Academy,	Shawville, Q
Ogilvy, Charles,	M. H. S.,	Montreal, Q
Shaw, Christie M.,	M. H. S.,	Montreal, Q
Spearman, Fred. S.	Huntingdon Academy,	
Smith, Alistair,	Petitcodiac School,	Petitcodiac, N.B
Stewart, J. C.,	London Coll. Inst.,	Embro, O
Styles, A. J,	Goderich H.S.,	Huron Co., P.O

THIRD YEAR.

Brown, Cecil L.,	Port Lewis, Q	Gordon, John S.,	Alberton, P.E.I,
Brown, James,	Huntingdon, Q	Gurd, Charles C.,	Montreal, Q
Donahue, Wm,	Montreal, Q	Hickson, J. W. A.,	Montreal, Q
Dresser, John A.,	Richmond, Q	Honeyman H. A.,	Knowlton, Q
Farnsworth, A. H.,	Compton, Q	Hutchison, David,	Brechin, O

Internoscia, Jérome,	Montreal, Q	Patterson, William,	Caultley, Q
Killaly, H. M.,	Morrisburg, O	Pratt, Francis,	Montreal, Q
McIver, Evander J.,	Montreal, Q	Robertson, Albert J.,	Woodbridge, O
McGerrigle, J. A.,	Ormstown, Q	Russell, William,	Matane, Q
MacVicar, Robert M.,	Montreal, Q	Skeels, Albee A.,	Montreal, Q
McVicar, Archibald,	Strathroy, O	Smith, E. F. McL.,	Hawkesbury, Q
Mahaffy, Albert,	Port Albert, O	Thompson, James,	Bristol, Q
Mansur, Charles,	Stanstead, Q	Townsend, Wm. McN.,	Traveller's Rest P.E.I
Muir, Peter P.,	Fordwich, O		
Munn, Stewart M.,	Montreal, Q		

FOURTH YEAR.

Allen, James H.,	West Osgoode, O	McAlpine, J. J.	
Anderson, John D.,	Tiverton, O	Mackenzie, Ewen A.,	Lucknow, O
Archibald, Edward,	Montreal, Q	McLennan, Kenneth,	Alexandria, O
Barron, Robt. H.,	Lachute, Q	McLeod, Norman A. D.,	Lockside, N. S
Blachford, Henry,	Huntingdon, Q	Messenger, Wm. John,	Londen, Eng.
Brown, Daniel,	Morris Flats, Q	Mitchell, Robt. J. W.,	Montreal, Q
Carmichael, S.,	Montreal, Q	Parker, Edwin G.,	Martinville, Q
Colquhoun, Philip,	Colquhoun, O	Pritchard, Wm. P.,	Redgrave, O
Craik, Galen,	Rockburn, Q	Reeves, Archibald C.,	Ormstown, Q
Cushing, Harold B.,	Montreal, Q	Robins, Geo. D.,	Montreal, Q
Davey, R. George,	Whitby, O	Ross, Robert O.,	Margaree, C.B
Drum, Lorne,	Quebec, Q	Sadler, Thomas A.,	Dewittville, Q
Graham, George D.,	Hull, Q	Smyth, Walter H.,	Montreal, Q
Guthrie, Donald,	Guelph, O	Taylor, James,	Ottawa, O
Hamilton, Dan. S.,	Ravenswood, O	Williams, Edward J.,	Montreal, Q
Jaquays, H. M.,	Sutton, Q	Whyte, George,	Leeds, Q
Jekill, Henry,	Morris Flats, Q	Wood, Arthur B.,	St. Johns, Q
Kollmyer, W. Hector,	Montreal, Q		

B. Ap. Sc.

Evans, N.

Partial and Occasional.

A *Partial Student* (indicated by an asterisk) may, without passing the Entrance Examination, take the same classes as an Undergraduate, and must take at least three classes. Undergraduates and Partials are Matriculated Students. An *Occasional Student* takes less than three classes.

FIRST YEAR.

*Alexander, F. J. K.,	Mascouche	*Gilmour, F. W.,	Almonte, O
*Armstrong, H. S.		Hall, John Thom.,	Mount Forrest, O
Baker, Calvin F.		*Hanson, Albert C.,	Barnston, Q
*Ball, George W.	Montreal, Q	Herries, Chas. R.	
Barclay, —		*Jackson, J. A.	
Biron, M. W.,	Wakefield	*Jones, A. T.,	England
Brandt, E.,	France	Lamert, J. O.,	Monte Bello, Q
*Brown, John L.,	Wood Bay, Man	*Levy, Aaron,	Montreal, Q
Brown, Sylvester,	Portland, O	Logan Alfred,	Montreal, Q
*Brown, T. H., C. St. Paul,	Montreal, Q	*McConnell, J. H.,	Montreal, Q
*Brown, H. S.,	Port	McDonough, —	
*Buker, C. F.,	Bishop's Mills, Q	McKenzie, W.,	Morrisburg, O
*Calvert, Reuben,	Hamilton, O	Macpherson, Walter R.,	Montreal, Q
Campbell, —		*Martin, Daniel E.,	Bothwell, O
Charles, Joseph G.,	Montreal, Q	*Mathers, F. M.,	Lucknow, O
Church, Howard M.,	Montreal, Q	Massicotte, Leopold,	Montreal, Q
Dougall, John,	Montreal, Q	Metcalfe, Thos. H.	
Ewan, Robert B.		Millar, D. D.,	Burgoyne, O
*Gilmore, Geo.,	Ireland	Overing, Robert T.,	Mt. Royal Val., M

*Peever, R. G., Haley's Station, O
Redpath, Harold, Montreal, Q
*Ridgeway, A. G., Ireland
*Rollit, Chas., Montreal, Q
*Scott, Thos., Monkton, O
*Sing, C. R., Singhampton
*Smith, Wm. O.
Stephens, Jno. G., New Rockland, Q
*Terryberry, A. J.
*Vaughan, Chas. S., Mystic, Q
*Walker, Harry
*Wallace, James M.
Ward, Fleetwood H.
*Waterson, W. J. N, Vankleek Hill, O
Weir, George
*White, Walter T.
*Wilkinson, Thos. J. N., N. Glasgow, Q

SECOND YEBR.

(1) Armstrong, H. S.
Ascah, W.
(1) Ball, George, Montreal, Q
Beauchamp, P., Grenville, Q
Burnett, Herbert, Toronto, O
(1) Brown, John L., Wood Bay, Man
(1) Brown,, Cote St. Paul, Montreal, Q
(1) Brown, S. H., Portland, O
*Burke, Thos. E., Farran's Point, O
(1) Cavert, Reuben, Hamilton, O
*Cameron, M. J., Cowansville, Q
(1) Charles, Joseph, Montreal, Q
(1) Church, J. M. H., Montreal, Q
*Coffin, J. M., Montreal, Q
Connor, M. F.
*Donaldson, David
Elliott, A.
*Fairbairn, Andrew, Prescott, O
*Fraser, S.
(1) Gilmore, G., Ireland
*Humphreys, J. S., Montreal, Q
(1) Jackson, J. H.
(1) Lamert, J. O., Monte Bello, Q
Lee, G. Herbert, Toronto, O
*(1) Martin, D., Bothwell, O
Massicotte, G. A.
(1)* Mathers, F. M., Lucknow, O
Maynard, J. S., Ste. Brigide, Q
McCuaig, W. W.
*(1) McKenzie, W., Morrisburg, O
Messenger, C. B. E., Nevarro, Cal
*Millar, R. A., Lumley
*McConnell, J. H., Montreal, Q
*Morrison, W. T., Ormstown, Q
*Parrish, L., Chiselhurst, O
(1) Peever, R. G., Haley's Station, O
(1) Ridgeway, A. G., Ireland
* Sanderson, A. E., Willowdale, O
Sincennes, J. B., Duclos, O
(1) Sing, C. R., Singhampton
Stevens, Wm. H., Sherbrooke, Q
Strong, F. I., Cambria, Q
* Truax, Judson, Ruthven, O
(1) Vaughan, Chas. S., Mystic, Q
Waller, Chas. C., Montreal, Q
* Warren, G. B., Lansdowne
Warnicker, John B.
* Westgate, C. R., Montreal, Q
(1) Wilkinson, Thos. J., N. Glasgow, Q
* Wright, T. H.

THIRD YEAR.

Adams, James R., Toronto, O
(2) Armstrong, H. S.
Adams, Robert, Sarnia, O
(2) Brown, S. H.
(2) Brown, Sylvester, Portland, O
(2) Brown, T., Montreal, Q
(2) Coffin, J. M., Montreal, Q
(2) Donaldson, David
Ewan, R. B., Montreal, Q
(2) Fairbairn, Andrew, Prescott, O
* Grisbrook, Ed. O, Sarnia, O
(2) Humphreys, J. S., Montreal, Q
(2) Jackson, J. A.
(2) Martin, D., Bothwell, O
(2) Mathers, F. M. Lucknow, O
(1) McConnell, J. H., Montreal, Q
Mervyn, W. A. P., Ireland
(2) Miller, Robert, Lumley
(2) Parrish, L., Chiselhurst, O
(2) Peever, R. G., Haley's Station, O
* Read, G. E., England
* Sanderson, W. C., Willowdale, O
Scott, Thomas, Monkton, O
Shaw, J. R.
(2) Sing, C. R., Singhampton
Slack, T. G., Waterloo, Q
* Strong, John I., Cambria, Q
Varrick, Louis
(2) Warren, G. B., Lansdowne
(2) Westgate, C. R., Montreal
(2) Wright, T. H.

FOURTH YEAR.

(3) Adams, R., Toronto, O
Barnby, R. H., Lucknow, O
Beattie, W. E., Guelph, O
(2) Burke, Thos. E., Farran's Point, O
(2) Burnett, Herbert, Toronto, O
Clarke, W. C., Hemming's Mills, O
(2) Connor, Mathew F.
Huxtable, Charles
(1) Jones, A. G. T., England
(2) Lee, Herbert, Toronto, O
(1) Logan, Alfred, Montreal, Q
McArthur, J. H., Kilbride, O
McKinley, George, Seaforth, O
Morrison, Wm. T., Ormstown, Q
Robinson, Fred. G., Glen Tay, O
(1) Sanderson, A. E., Willowdale, O
(2) Wilkinson, T. J., New Glasgow, Q

DONALDA DEPARTMENT.

SPECIAL COURSE FOR WOMAN.

Undergraduates.

FIRST YEAR.

Name.	*School.*	*Residence.*
Anderson, Jennie A.,	Stanbridge Model School,	Stanbridge, Q
Armstrong, L. E.,	Montreal G. H. S.,	Montreal, Q
Cameron, Susan E.,	Victoria H. S., St. John, N.B.,	St. John, N.B.
Carnochan, Lillian,	G. H. S., Montreal,	Montreal, Q
Cushing, Florence E.,	G. H. S., Montreal	Montreal, Q
Rickey, Eleanor,	Private Tuition	Jefferson City, Mo., U.S.
Travis, Katharine,	Victoria H. S., St. John, N.B.,	St. John, N.B.
Watson, Rosalind,	Huntingdon Academy,	Huntingdon, Q
Whiteaves, A. Maud,	Ottawa Collegiate Institute,	Ottawa, O

SECOND YEAR.

Name.	*School.*	*Residence.*
Brown, Jessie,	Mrs. Lay's Scool,	Montreal, Q
Craig, Margaret,	Girl's High School,	Montreal, Q
Gyde, Lilllan N.,	McGill Normal School,	Montreal, Q
Hargrave, Edith,	Sherbooke Girls' Academy,	Sherbrooke, Q
Mackenize, Jane E. F.,	St. Francis College,	Richmond, Q
Ogilvy, Isabella,	G. H. S., Montreal,	Montreal, Q
Radford, Ethel S.	G. H. S., Montreal,	Montreal, Q
Shaw, S. Louise	G. H. S., Montreal,	Montreal, Q
Seymour, Clara.	Private tuition,	Montreal, Q
Warner, Agnes L.,	G. H. S., St. John, N.B.,	St. John, N.B

THIRD YEAR.

Angus, Frances P., Montreal, Q
Boright, M. D.
Brittain, Isabel J., Montreal, Q
Fairclough, Lizzie M., Hamilton, O
Hunt, Lovisa E.
Jackson, Annie, Montreal, Q
James, Agnes S., Montreal, Q
Lee, Mabel, Quebec, Q
Macdonald, Jessie H., Montreal, Q
McCoy, Emma C., Rockburn, Q
Millar, Edith N., Montreal, Q
Seymour, Martha, Montreal, Q
Smardon, Charlotte, Three Rivers, Q

FOURTH YEAR.

Campbell, Kate M., Montreal, Q
Davidson, Clara F. M., Frelighsburg, Q
Leach, Milda, Montreal, Q
Lyman, Helen W., Montreal, Q
MacDonald, Minnie L., Montreal, Q
Mewhort, Louise, St. Anne, Q
Pitcher, Ethelwyn, Montreal, Q
Raynes, Ethel, Montreal, Q
Ross, Jessie K., Montreal, Q
Tatley, Eleanor, Montreal, Q

B. A.

Binmore, Elizabeth, B.A.
Botterell, Inez, B.A
Macfarlane, Mira, B.A.
McMillan, Helena, B.A.
Reid, Helen R. Y., B.A.
Scott, Sara, B.A.
Smith, G. Louise, B.A.

Partial and Occasional.

A *Partial Student* (indicated by an asterisk) may, without passing the Entrance Examination, take the same classes as an Undergraduate, and must take at least three classes. Undergratuates and Partials are Matriculated Students. An *Occasional Student* takes less than three classes.

FIRST YEAR.

Armstrong, L. E.,	Montreal, Q	Jordan, Alice M.,	Montreal, Q
Claxton, Ethel G.,	Montreal, Q	Krause, Louise	
Coussirat, Eva J.,	Montreal, Q	Macrae, Ethel,	Montreal, Q
Drinkwater, Mabel,	Montreal, Q	Macfarlane, Mira, B.A.,	Montreal, Q
Evans, E. Elsie,	Montreal, Q	Savage, Mary Mills,	Montreal, Q
Hamilton, Beatrice,	Montreal, Q	Scott, Elsie,	Montreal, Q
James, Ada D.,	Montreal, Q	Tatley, Gertrude	
Johnson, Helena,	Montreal, Q	Woods, Edythe M.,	Montreal, Q

SECOND YEAR.

Ames, L. M.,	Montreal, Q	Kerr, L. S.,	Montreal, Q
Brown, M. B.,	Montreal, Q	Lamplough, Grace C.,	Montreal, Q
Clarke, Maude,	Montreal, Q	Lindsay, Sarah F.,	Montreal, Q
Cowie, Jane,	Scotland	Mann, Eva,	Montreal, Q
Craig, Jeanie,	Montreal, Q	McLea, Jeanie,	Montreal, Q
Dansken, M. R.,	Scotland	McMillan, Helena, B.A.	
Dawson, Elizabeth,	Montreal, Q	Nichols, Alice,	Montreal, Q
Dougall, Janet A.,	Montreal, Q	Raynes, N. B.,	Montreal, Q
Evans, Mabel N.,	Montreal, Q	Reid, Ethel H.,	Montreal, Q
Evans, Lilian N.,	Montreal, Q	Ross, C. M.,	Montreal, Q
Hall, Bertha,	Montreal, Q	Sanderman, M. M.,	Montreal, Q
Howell, J. C.,	Montreal, Q	Seifert, Bertha	
Irwin, Isa,	Montreal, Q	Skelton, A. R.,	Montreal, Q
Johnson, E. L.,	Montreal, Q	Smith, Evaline J.,	Montreal, Q
Jordan, M. H.,	Montreal, Q	Smith, G. Louise, B.A.,	Montreal, Q
Jordan, A.		Trenholme, Florence,	Montreal, Q

THIRD YEAR.

Dawson, W. G.,	Montreal, Q	Reay, Janet,	Melbourne, Q
Dawson, Amy G.,	Montreal, Q	Rielle, M. L.,	Montreal, Q
Mills, Janet A.,	Montreal, Q		

FOURTH YEAR.

Botterell, I., B.A.,	Montreal, Q	Johnson, N.,	Montreal, Q
Campbell, R. F.,	Montreal, Q	McCallum, E.,	Monville, Q
Finley, M.,	Montreal, Q	McGarry, Isabel	
Finley, Greta,	Montreal, Q	McLea, Rosalie,	Montreal, Q
Holder, Ella E.,	Montreal, Q	Mooney, C. J.,	Montreal, Q
Irish, Mary L.,	Montreal, Q	Reid, Helen R. Y., B.A.,	Montreal, Q

MORRIN COLLEGE, QUEBEC.

Undergraduates.

Chambers, E. J. C.,	Granby, Q	Livingstone, Neil,	Quebec, Q
Cook, John Wilson,	Quebec, Q	Logie, E. S.,	Quebec, Q
Crocket, Octavus,	Fredericton, N.B	Macadam, Margaret,	Glasgow, Scot
Fraser, Ethel,	Quebec, Q	Moffatt, David S.,	Inverness, Q
Gale, Ethel,	Quebec, Q	Polley, J. F.,	St. Stephen, N.B
Giroulx, Louis R.,	Duclos, Q	Tanner, John U. E. F.,	Levis, Q
Harper, Robert M.,	Quebec, Q	Taylor, Wm. Baxter,	Quebec, Q
Lee, Emily,	Quebec, Q	Thomson, Harry Stuart,	Quebec, Q
Lindsay, John,	Danville, Q	Woodside, Geo. Alex.,	St. Sylvester, Q

Occasional Students.

Arnold, Gertrude	McLaren, Thos
Ashe, Wm. E.	Richardson, Edith
Boswell, H.	Ross, Frank
Brown, M. L., B.A.	Russell, R. H.
Buchanan, J., B.A.	Stevenson, Agnes
Gale, Ernest	Stocking, F.S.
Hatch, Grace M.	Tanner, Chas. A. H.
Macadam, Bessie	Tanner, Wm.
MacLeod, Euphemia, B.A.	Wheeler, J.

ST. FRANCIS COLLEGE, RICHMOND.

Undergraduates.

Candlish, Charles W.,	L'Avenir, Q	Hewitt, Edith,	Melbourne, Q
Coburn, David N.,	Melbourne, Q	Lufkin, Elizabeth J.,	Waterloo, Q
Dickson, Stanley,	Kingsey, Q	Patterson, William F.,	Montreal, Q
Dunkerley, Cora F.,	Ulverton, Q	Stevens, James W.,	Kirkdale, O
Evans, Thomas H.,	Trenholme, Q	Verrill, Charles,	Melbourne, Q
Fraser, Harriet A.,	Richmond, Q		

Occasional Students.

Jamieson, Minetta A.,	Richmond, Q	Ryan, George,	Richmond, Q

STANSTEAD WESLEYAN COLLEGE.

Undergraduates.

Gustin, Alfred,	Fitch Bay, Q	Tweddell, Ethelwynn,	Quebec, Q
McAmmond, Anna,	Bell's Corners, O	Vipond, Laura,	Hudson, Q
McDuffie, Mamie,	Derby, Vt	Whitney, Rosa,	Macon, Ga

FACULTY OF APPLIED SCIENCE.

FIRST YEAR.

Angus, William Forrest,	Montreal, Q	Blackburn, R. Lennox,	Ottawa, O
Askwith, Wm Rob.,	New Edinburgh, O	Boright, George Nelson,	Sutton, Q
Aveling, Arthur Powell,	Montreal, Q	Buchanan, Fitzh. Price,	Montreal, Q
Baker, Hugh C.,	Ottawa, O	Bulmer, T. Cam. Morton,	Montreal, Q
Becket, Fred. Mark,	Montreal, Q	Carter, Wm. Fred.,	Cowansville, Q
Balloch, G. Ralston,	Centreville, N.B	Clements, F. S.,	Upper Kingsclaur, N.B

Cochrane, Kenneth C., Brockville, O
Carne, William, Montreal, Q
Cushing, Jas. Wilfred, Montreal, Q
Davis, Wm. Patrick, Ottawa, O
Dougall, Wilfrid, Montreal, Q
Fairie, James A., Montreal, Q
Fairman, Ernest Edward, Montreal, Q
Girdwood, Kennet John, Montreal, Q
Greig, Alex. R., Montreal, Q
Gamba, Emilio, Bogota, Columbia, S.A
Griffin, Michael Ed., Georgetown, P.E.I
Gwillim, John Cole, Winnipeg, M
Hart, Orobio Chandler, Cowansville, Q
Hutcheson, R. Bennett, Montreal, Q
Jacobie, John B., Montreal, Q
Jones, Chs. Hugh, Cote St. Antoine, Q
Johnson, Ed. Breston, Ottawa, O
King, Robert Owen, Montreal, Q
Loeb, Alf. Augustus, Montreal, Q
Metcalfe, Thos. Henry, Montreal, Q
Moodie, Kenneth, Chesterville, O
McBean, A. Stewart, Montreal, Q
McDunnough, R. Baylis, Montreal, Q
McKay, Chs. Edward, East Hatley, Q
McDougall, G. Dewar, Amherst, N.S
McKenzie, Alex., Cote St. Antoine, Q
McNaughton, Peter, Huntingdon, Q
Niven, Thos. Francis, Montreal, Q
Olive, W. McHenry, St. John, N.B
Plummer, Thos. H., Montreal, Q
Primrose, John, Pictou, N.S
Purves, Arch., North Sydney, C.B
Robins, Sampson P., Montreal, Q
Rogers, F. Doughty, Montreal, Q
Saunderson, E. L. Wm., Montreal, Q
Schurman, N., North Bedeque, P.E.I
Scott, Alf., Port Hope, O
Skill, H. Geo., Cobourg, O
Trenholme, A. K., Cote St. Antoine, Q
Trenholme, N. M., Cote St. Antoine, Q
Trenholme, H. R., Trenholmeville, Q
Van Barneveld, C. E., Grindstone, M. I
Ward, Fleetwood H., Montreal, Q
Wilkin, F. Alf., Calgary, N.W.T
White, Frank H., Montreal, Q
White, Thos. W, St. John, N.B
Barclay, H. H., St. Andrews East, Q
Thomas, C.F.W., Lyster, Megantic Co., Q

SECOND YEAR.

Brodie, Alex., Quebec, Q
Costigan, J. Shearer, Montreal, Q
Dudderidge, Wm., Lachute, Q
Darling, Edward, Montreal, Q
Gunn, Robert A., Montreal, Q
Holden, A. R., B.A., Montreal, Q
Henry, J. K., B.A., Sennett, N.Y., U.S.
Shaw, H. H., Brackley Point, P.E.I
Duff, Wm. Alex., Montreal, Q
Collyer, Alfred, Sussex, Eng.
Connor, M. F., Ottawa, O
Dyer, L. W. E., Montreal, Q
Larmonth, J. H., Ottawa, O
Leach, Wm. Wilson, Montreal, Q
Longworth, C.H. B., Charlottetown PEI
Lorway, John Muir, Sydney, C.B
Molson, Herbert, Montreal, Q
Mooney, H. Seward, Montreal, Q
Morris, John Wm., Wallace, N.S
Mudge, A. Langley, Montreal, Q
Naas, Robt. David, Lunenburg, O
Pitcher, Frank Henry, Montreal, Q
Scammell, J. Kimball, St. John, N.B
Scott, W. Moffat, Charlottetown, P.E.I
Whiteside, O. E. S., Metcalfe, O
Lambert, Frank, England
Cole, A. Augustus, B.A., Montreal, Q

THIRD YEAR.

McLeod, Thos. M., Georgetown, P.E.I
Rutherford, Forest, Cote St. Antoine, Q
Robert, A. M. A., Ottawa, O
Street, Leonard Lee, Fredericton, N.B
Burns, J. Andrew, Montreal, Q
Barnes, Howard Turner, Montreal, Q
Bowden, Wm. Arthur, Richmond, Q
Dawson, Alex. Scott, Pictou, N.S
Featherston, J. Hamilton, Montreal, Q
Greenberg, Louis, Montreal, Q
Herdt, Henri, Montreal, Q
Herdt, Louis, Montreal, Q
Holman, R. Claude, Summerside, P.E.I
Lawrie, Wm. Pitt, Quebec, Q
MacPhail, J. Alex., Orwell, P.E.I
Massey, Arthur W. K., Montreal, Q
Murphy, David A., Montreal, Q
Rankine, John R., Montreal, Q
Ryan, A. J., Rouses' Point, N.Y., U.S.A
Simpson, Lincoln, Cavendish, P.E.I
Stevenson, J. A., South Granby, Q

FOURTH YEAR.

Boustead, Wm. Edward, Toronto, O
Antliff, John Holden, Montreal, Q
Adams, W. Chamblet, Montreal, Q
Bolton, Ellsworth D., Listowel, O
Copeland, Louis Ben., Berthier, Q
Cunningham, W. Norton, Montreal, Q

Kingston, C. B., B.A.,	Montreal, Q	Smart, Wm. C. Gregory,	Hamilton, O
Klock, Alonzo John,	Aylmer, Q	Smith, Geo. Sinclair,	Petitcodiac, N.B
Le Rossignol, Peter H.,	Montreal, Q	Stuart, Henry Black,	Montreal, Q
Murphy, P. Jos.,	Quebec, Q	Tighe, James,	Holyoke, Mass., U.S.A
McGregor, J. Murray, B.A.,	Montreal, Q	Wainwright, J. G. R.	St. Andrews, Q
Purves, J. Geo. H.,	Sydney, C.B	Warren, Wm. Henry,	Montreal, Q

FACULTY OF COMPARATIVE MEDICINE AND VETERINARY SCIENCE.

FIRST YEAR.

Anderson, B.	Montreal, Q	McAlpine, D.	Vankleek Hill, Ont
Baker, G. P.	Binscarth, Man	McCall, F. D.	Montreal, Q
Buchan, J. A.	L'Orignal, Ont	McGillveray, J. D.	Laggan, Ont
Cary, E. J.	North Adams, Mass	McLeod, J.	Howick, Q
Cleaves, A. S.	Boston, Mass	Thomas, R.	Middlebush, N.J
Cleveland, H. R.	Danville, Q	Shaw, J. R.	Honolulu, H.I
French, C.	London, Eng	Salley, J. L.	Skowegon, Me
Grattan, R. H.	Preston, Minn	Smith, D.	Montreal, Q
Hall, A. H.	Leeds, Q	Solant, J. V.	Inverness, Q
Hollingworth, J. B.	Buckingham, Q	Urquhart, H.	Montreal, Q
Moore, A. E.	Stanbridge, Q	Walsh, H. J.	Ormstown, Q
Mulvey, C. J.	Mooers, N.Y		

SECOND YEAR.

Brainerd, E.	Kakoka, Mo	Orr, O. G.	New Armagh, Q
Campbell, J. G.	Montreal, Q	Patterson, J. H.,	Montreal, Q
Cleaves, A. S.	Rindge, N.H	Plaskett, W. S.	Woodstock, Ont
Denny, H. E.	New York, N.Y	Stephens, J.	Huntingdon, Q
Ewing, A. J. A.	Montreal, Q	Thayer, S. W.	Cambridge, Mass
McGuire, W. C.	Shawville, Q	Tracy, A. W.	Sherbrooke, Q
Morrin, Wm.	Bell Rivière, Q	Wylie, M. C.	New Harmony, Ind

THIRD YEAR.

Balmer, W. M.	Cambridge, Mass	McDougall, J.	Montreal, Q
Barton, F.	Sherbrooke, Q	McIntyre, J. D.	Clifton, P.E.I
Bolger, D. L.	Cambridge, Mass	McNaughton, D. D.	Laggan, Ont.
Dunton, H. B.	Richmond, Q	Plaskett, Jos.	Woodstock, Ont.
Dyer, R. E.	Boston, Mass	Pote, T. B.	New Harmony, Ind
Gangleff, G. E.	Buffalo, N.Y	Ramsay, R. A.	Eden Mills, Ont
Hadley, A.	North Georgetown, Q	Rathbone, J. L.	Montreal, Q
Lamb, A. S.	Montreal, Q	Robb, E. M.	Montreal, Q
Lee, G. H.	Boston, Mass	Robertson, A. T.	Howick, Q
Lofgren, O. C.	Sauk Centre, Minn	Seale, J. H.	Granby, Q
Moffatt, S. J.	Ormstown, Q	Wells, G. P.	Cochrane, N.W.T
Moffett, J. W.	Harper, Kan		

1891-92

SUMMARY.

Students in Law, McGill College			39
" in Medicine, "			257
" in Arts :— "			
Men	Graduates	1	
	Undergraduates	135	
	Partial	53	
	Occasional	58	
Women	Graduates	7	
	Undergraduates	43	
	Partial	3	
	Occasional	62	362
" " " St. Francis College			12
" " " Stanstead Wesleyan College			15
" " Applied Science, McGill College :—			
	Undergraduates	75	
	Partial	10	85
" Veterinary Science			54
			825
Deduct entered in two Faculties			3
			822
McGill Normal School Teachers-in-training			104
Total			926

This is in the main the record for 1890-91 not 1891-92

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Donations to Library and Museum.

FROM JUNE, 1891, TO MAY, 1892.

TO THE LIBRARY.

From Messrs. MacMillan & Co., London: Herodotus, Book VII., with notes by A. F. Butler, Book VI.

From the author (George Washington Moon): Men and Women of the Time, 13th edition, 1891.

From Professor Bovey: Steam (new edition), Its Generation and Use, 1891.

From Baron Ferd. von Mueller, Melbourne, Australia: Select Extra-Tropical Plants, readily eligible for industrial culture or naturalization, 7th ed., 1888.

From the McGill Graduates' Society: Character Writings of the 17th Century, being Vol. 14 of the Carlsbrooke library.

From the Director of the U.S. Mint, Washington: Report upon the Production of the Precious Metals for 1890.

From the Kansas Academy of Science, Topeka, Kansas: Transactions, Vol. 12, 1890.

From Professor Bovey: Transactions, Vol. 12, 1890 (another copy).

From the California State Mining Bureau: Tenth Annual Report of the State Mineralogist, with maps to accompany same.

From the Meteorological office, Toronto: Report of the Meteorological Service of Canada for 1887; rain fall maps to accompany same.

From Sir J. W. Dawson: Arkansas Geological Survey, annual report for 1889, Vol. 2.

From Aberdeen University: Calendar for 1891-92.

From McGill College Graduates' Society:

English Men of Letters series—Bunyan, Goldsmith, Burns, Hume, Macaulay, Southey, Spenser, Sterne, Thackeray, 9 vols.; Shakespeare's England, by Wm. Winter; Milton's Arcades and Comus, by A. Wilson Verity; English Statesmen's series—Peel; Men of Action series—Drake, Warwick; Constitutional Documents of Canada, by Wm. Houston; Canada and the Canadian Question, by Goldwin Smith; Analysis of English History, by C. W. A. Tait; the Journal of Sir Walter Scott; The American Commonwealth, Bryce, 2 vols.; Principles of English Etymology (first and second series), by Walter W. Skeat, 2 vols.; the Arthurian Legend, by John Rhys; English Miracle plays, by A. W. Pollard; Short Studies of Shakespeare's plots, by Cyril Ransome; The Vikings in Western Christendom, by C. F. Keary; the Historic Note Book, by Rev. E. C. Brewer; Key to North American Birds, 1890, by Elliott Coues; Constitutional History of the United States, by Von Holst, Vols. 2 and 3. 2 vols.; Intellectual Life, by Philip G. Hamerton; Deutsche Lyrik, by Bacheim. In all, 32 vols.

From the Provincial Government, Quebec, Journals of the Legislative Assembly, Vol. 25, 1890; Do, the same in French, Vol. 25.

From the University of London: Calendar for 1891-92.

From the Chief of Engineers, U.S. Army, Annual Report for 1890 (4 vols.).

From the Dominion Government, Ottawa: Annual Supplement to the Catalogue of the Parliamentary Library.

From the Trustees of the British Museum: Catalogue of Fossil Fishes, Part 2; Catalogue of Fossil Cephalopoda, Part 2.

From the Oxford Historical Society, per Peter Redpath, Esq.; Oxford City Documents, 1268-1665, by J. E. Thorold Rogers.

From the Secretary of State for India: The Great Trigonometrical Survey of India, Vols. 11, 12 and 13, 3 vols.

From the British Association for the Advancement of Science: Report of 60th meeting held at Leeds.

From the publishers (Messrs. Merriam & Co.), Springfield: Webster's International Dictionary.

From Francis McLennan: Histoire des Albigeois, par Napoleon Peyrat, 3 vols.; English and German Dictionary, Flugel.

From Edinburgh University; Calendar for 1891-92.

From the Engineering News Publishing Co.: the Cleansing and Sewerage of Cities, by R. Bannister.

From the Nebraska University Agricultural Experiment station, Lincoln, Neb.: Fourth Annual Report, 1891.

From L. O. Bourget, Regina, N.W.T.: Revised Ordinances of the Northwest Territories passed by the Legislative Assembly, 1888-90.

From Baron Ferd. von Mueller, per Sir J. W. Dawson: Australian Association for the Advancement of Science, Vol. II, Melbourne, 1890.

From the Geological Survey of Pennsylvania: New general map of the Anthracite region, 1891.

From Prof. Bovey: Lessons in Elementary Practical Physics, Part I., Stewart and Gee.

From Peter Redpath, Esq., the following works: Aristotle on Constitution of Athens; do, Fac-simile of Papyrus; Government of India—Selections of Despatches, 3 vols.; Calendars of State Papers, 6 vols; Acts of Privy Council, Vols. 1 and 2; Chronicles and Memorials, 3 vols.; do, Scottish series, 2 vols.; Guide to Documents in Record Office; Report of Royal Commission on Hist. MSS., 5 vols.; New Club Series, Chalmers, Vol. 5; Hakluyt Society Publication, Vols. 79 and 80; Surtees Society, 1884, 1885, 1886 and 1887; Pertz' Monumenta Scriptorum, 34 vols.; Muratori Scriptores Italicarum, 31 vols.; Stevens' Fac-similes, 4 vols., 6 and 9; Foster's Index Ecclesiasticus; Murray's Dictionary, 2 parts, part 5, Vol. 3, part 1; Paul and Braune—Beitrage, 14 vols.; Anglia, 12 vols., and Mitteilungen, 1 vol., 13 vols., Annual Register, 1889—in all, 129 vols., and 2 parts Murray's Dictionary.

From the estate of the late Miss Rimmer, per Hugh McLennan, Esq.: "Useful Knowledge Series," 9 vols.; La Vie et les Mœurs des Animaux, by L. Figuier; The Canadian Naturalist and Geologist, 1 series, 4 vols.; The Works of Sydney Smith; Aristotle, a chapter from the History of Science, by G. H. Lewes; Diary of the Right Hon. Wm. Windham; Memoirs of Sir Robert Peel, by J. Guizot; Lives of British Statesmen, by J. Macdiarmid; Elements of Algebra, by Rev. J. W. Colenso, D.D.; Lives of the Seven Bishops committed to the Tower in 1688, by Agnes Strickland; History of the Bank of England, by John Francis; History of Banks for Savings in Great Britain and Ireland, etc., by Wm. Lewins; Capital, Currency and Banking, etc., by James Wilson—In all, 24 volumes.

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From Messrs. Macmillan & Co., London, Eng.: Virgil, Bucolics, by T. E. Page; Molière, Les Précieuses Ridicules, by G. E. Tasnacht; Lessons in Elementary Biology, by T. J. Parker; Shakespeare's King Lear, with notes by E. Deighton; Antony and Cleopatra, with notes by do; Mechanics for Beginners,

by J. B. Lock; Plautus, the Captive, with notes by A. R. S. Hallidie; Thucydides, Book II.; do, Book V, with notes by C. E. Graves.

From the Smithsonian Institute, per Sir J. W. Dawson: The Forest Trees of America, by Asa Gray; Annual Report of the Regents, 1889; Annual Report of the Board of Regents, 1888-89.

From Messrs. Ginn & Co., Boston: The Modalist, or The Laws of Rational Conviction, by E. J. Hamilton.

From the Trustees of the Missouri Botanical Gardens, St. Louis: Second Annual Report, 1891.

From Messrs. G. & C. Merriam & Co., Springfield, Mass., per Sir J. W. Dawson: Webster's International Dictionary for the "Engineering Building."

From the Queen's Printer, Manitoba: Acts of the Legislature of the Province of Manitoba, Winnipeg, 1891, Vol. 1, Public Acts.

From N. H. Winchell, State Geologist, Minneapolis, Minn.: The Iron Ores of Minnesota, 1891; The Geological and Natural History Survey of Minnesota, 18th Annual Report for 1891.

From A. W. Greely, U.S. War Department, Washington: Weather Maps for May, June, July, August and September.

From Glasgow University: Calendar for 1891-92.

From Institution of Civil Engineers, London, England: Proceedings of the Institution, Vol. 104.

From the author (G. B. Longstaff): "Studies in Statics."

From McGill Graduates' Society: History of the 18th Century Literature, 1660-1780, by E. Gosse; History of Elizabethan Literature, by G. Saintsbury.

From the Royal Colonial Institute: Report of Proceedings, Vol. 22, 1890-91.

From University of Sydney, N.S.W.: Calendar for 1891.

From the American Association for the Advancement of Science: Proceedings of the 39th meeting, held at Indianapolis, August, 1890.

From the author (Maurice Hime), per Sir J. W. Dawson: Efficiency of Irish Schools, and their Superiority to English Schools; Hime's Introduction to Greek; do, to Latin.

From Dr. J. Clark Murray (the author): An Introduction to Ethics.

From the Toronto University: Calendar for 1891-92.

From Prof. Penhallow (the author): "The Botanical Collector's Guide."

From the Society of Engineers, London: Transactions for 1890 and General Index, 1861 to 1890.

From Hearn & Harrison, Montreal: Illustrated Catalogue.

From Le Ministère des Travaux Publics, Paris: Statistique de l'Industrie Minière et des Appareils à Vapeur pour l'année 1889.

From the author (Rev. W. H. Withrow, M.A., Toronto): "The Catacombs of Rome."

From the Geological Survey of Canada, Ottawa: Annual Report, Vol. 4, 1888-89.

From the State Board of Health, Boston: Purification of Sewage and Water, 1890.

From Sir J. W. Dawson: Year Book of the Brooklyn Institute, 1890-91.

From the Dominion Government of Canada, Ottawa: Statistical Year-Book of Canada for 1890.

From H. L. Fairchild, Sec. Geol. Socy. of America, Rochester, N.Y.: Bulletin of the Geological Society of America, Vols. 1 and 2.

From U.S. National Museum: Proceedings, Vol. 13, 1890, per Smithsonian Institute.

From Professor Bovey: Owen's College Calendar, 1881-82.

From W. G. Simmons, Montreal, per Prof. Penhallow: Cocoa and Chocolate; A Short History of their Introduction and Use; The Chocolate Plant and Its Products.

From the Geological Survey of Pennsylvania: Report of Second Annual Survey Report of Progress, F. 3, 1888-89; Atlas, Western Anthracite Field AA., Part 3; Atlas Northern Anthracite, Field AA., Part 4; Atlas, Northern Anthracite Field AA., Part 6—In all, 52 volumes.

From Macmillan & Co., London; Short Historical Grammar of the German Language, by Emil Trechman; Cicero in his Letters, edited by Robert W. Tyrrell.

From the Lick Observatory, Sacramento, Cal.: Reports on Total Eclipse of the Sun, December 21 and 22, 1889.

From the United States Coast and Geodetic Survey: Report of Progress, 1888-89.

From the Provincial Government, Quebec: Sessional Papers, Vol. 25-3, 1890.

From the Medical Faculty, per Dr. Shepherd: 24 volumes miscellaneous.

From Owens College, Manchester, Eng.: Calendar for 1891-92.

From the Commissioner of Fish and Fisheries, Washington: Report for 1887.

From Prof. Egleston, New York: Van Nostrand's Eclectic Engineering Magazine, Vol. 1 to 35, a complete set; Proceedings of the American Association for the Advancement of Science, 1878 to 1890, 16 vols. in paper cover.

From J. F. Muirhead, London, Eng.: Baedeker's Handbook, London and its Environs, 1889.

From the Institution of Civil Engineers, London, Eng.: Minutes of Proceedings, Vol. 106, 1891; Brief Subject Index, Vols. 59 to 106; Engineering Education in the British Dominions, 1891.

From the Weather Bureau, Washington: Weather Maps for October, November and December.

From the Dominion Government, Ottawa: Sessional papers; Reports 1891, 15 vols.

From the Director of the United States Mint: Annual Report, 1890 and 1891.

From the Secretary of State for India: Great Trigonometrical Survey of India, Vol. 14.

From the Ontario Government, Department of Agriculture: Annual Report for 1890, 2 copies.

From Harvard University: Catalogue 1891-92.

From Professor Darey: Principes Généraux du Droit International Public.

From the U.S. Geological Survey: Tenth Annual Report, 1888-89, Part I, Geology; Part II, Irrigation.

From Mr. Peter Redpath: Oxford Historical Society's publications; Life and Times of Anthony Wood.

From Sir J. W. Dawson: Catalogue of College of New Jersey, Princeton; Experimental Farms (Ottawa), Reports for 1890.

From Francis McLennan: Life of Christ, by J. P. Lange, D.D., 6 vols.

From W. C. McDonald, Esq.: 280 volumes on Electricity and Steam Engines, etc., and a number of Pamphlets.

From the author (Dr. Archibald Duff): Theology of the Old Testament.

From the American Society of Mechanical Engineers: Proceedings, Vol. 12, 1891.

From the Royal Institute of British Architects: Transactions, Vol. 7, new series, 1891.

From the Dublin University: Calendar 1892; Examination Papers for 1892.

From John Wiley, Esq., New York, per Prof. Bovey: Works of John Ruskin, complete, 20 vols.

From F. A. Crisp, London, Eng.: The Parish Registers of Ongar, Essex, from 1558 to 1750.

From the Institution of Mechanical Engineers: Proceedings Liverpool Meeting, July, 1891; do, London, October, 1891.

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From the American Institute of Mining Engineers: Transactions, Vol. 19, 1891.

From the National Electric Light Association, New York: Report of the Proceedings at Annual Conventions, 9 vols. (5 in paper covers).

From Francis McLennan: Manual of Chinese Bibliography, by Mollendorff; Schlosser's History of the 18th Century, 8 vols.

From the Johns Hopkins' University of Baltimore: Higher Education in Indiana, by Jas. A. Woodburn; The Bishop Hill Colony, by Michael Mikkelsen.

From Sir J. W. Dawson: Statutes and Regulations respecting Public and High Schools, Ontario; Annual Report of the Geological Survey of Arkansas, 1888; Report of the Minister of Education, Ontario, for 1891.

From the Dominion Government, Ottawa: Debates of the House of Commons, session 1891, 3 vols.; Journals of the Senate, Vol. 25, 1891; Journals of the House of Commons, Vol. 25, 1891.

From the Provincial Government, Quebec: Sessional Papers; Answers to Addresses, Vol. 25, III, 1890; Departmental Reports, Vol. 24, I, 1890.

From Dr. Johnson: Dublin Translations into Greek and Latin Verse, edited by R. Y. Tyrrell.

From Her Majesty's Government, per the Secretary of State: Report of H. M.S. "Challenger" Expedition, "Deep Sea Deposits."

From the U.S. Government, Washington: Annual Report of the Chief Engineers in U.S. Army, 6 vols.; Contributions to North American Ethnology, 3 volumes.

From Miss Ramsay, 65 Victoria St.: Miscellaneous—Arctic Voyages, etc., 14 vols.

From the Smithsonian Institution, Washington: Annual Report U.S. National Museum, 1889.

From the British Association for the Advancement of Science: Report, Cardiff Meeting, 1891.

From P. T. Lafleur: Hecuba—Euripides, by R. Porson.

From the Volunteer Mission Bands of the Y.M.C.A and Y.W.C.A of McGill University: Encyclopædia of Missions, 2 vols. Edited by Rev. Edwin M. Bliss.

From McGill College Book Club: 109 volumes:—

Arius the Lybian, an Idyl of the Primitive Church; Sir Edwin Arnold with Sadi in the Garden; T. J. Aubertin, Six Months in Cape Colony and Natal; Adam Badeau, Aristocracy in England; J. Ball, Notes of a Naturalist in South America; D. E. Bandman, An Actor's Tour; C. Bigg, The Christian Platonists of Alexandria; S. R. Bolton, Social Studies in England; Gen. J. S. Brisben, Trees and Tree Planting; Bluntschli, Theory of the State; J. Caird, Spinoza (Philosophical Classics); W. R. Carlos, Life in Corea; Earl of Carnarvon, Odyssey of Homer; F. D. Y. Carpenter, Round about Rio; Rev. A. J. Church, The Count of the Saxon Shore; The Churches of Christendom; C. R. Conder, Altaic Hieroglyphs; S. Cooper, Animal Life on Sea and on Land; S. S. Cox, The Isles of the Princes; Stuart Cumberland, The Queen's Highway from Ocean to Ocean; A. B. Dodd, Cathedral Days; Sir F. Hastings Doyle, Reminiscences and Opinions; A. Edgar, Old Church Life in Scotland; H. W. Elliot, Our Arctic Province; R. T. Ely, The Labor Movement in America, H. P. Fellows, Boating Trips on New England Rivers; Percy Fitzgerald, Life and Times of William IV., 2 vols.; E. Francis, Saddle and Moccasin; E. A. Freeman, The Chief Periods of European History; H. Frith, Escaped from Siberia; J. A. Froude, Oceana; J. Gauthier, The Usurper; P. Gillmore, The Hunter's Arcadia; Edm. Gosse, From Shakespeare to Pope; F. H. H. Guillemard, The Cruise of the Marchesa, 2 vols.; G. Gunton, Wealth and Progress; A. J. C. Hare, Studies in Persia; A. Heilprin, The Geographical and Geological Distribution of Animals; The Marquis of Huntley, Travels, Sports and Politics; T. D. Ingram, A History

of the Legislative Union of Great Britain and Ireland; Lady Jackson, The Court of France, 2 vols.; H. E. M. James, The Long White Mountain; Rev. A. Jessop, Arcady for Better for Worse; B. Jewett, The Politics of Aristotle, 2 vols.; H. W. S. Karr, The Shores and Alps of Alaska; Wm. Knight, Hume; Major A. Knollys, Sketches of Life in Japan; S. Laing, Modern Science and Modern Thought; Sir A. H. Layard, Early Adventures in Persia, 2 vols.: W. E. H. Lecky, History of England in the Eighteenth Century, Vols. 5 and 6; T. H. Lewis, The Holy Places of Jerusalem; Life of a Prig; J. Russell Lowell, Democracy; Chs. Mackay, The Founders of the American Republic; J. B. Mahaffy, The Story of Alexander's Empire; W. H. Mallock, Atheism and the Value of Life; D. Masson, Carlyle, Personally and in His Writings; Earl of Meath, Prosperity and Pauperism; J. H. Middleton, Ancient Rome in 1885; J. F. Molloy, Life and Adventures of Peg Woffington, 2 vols.; Monte Carlo and Public Opinion; A. Munthe, Letters from a Mourning City; H. O. Nethercote, The Pytchley Hunt; T. L. R. Oliphant, The New English, 2 vols.; R. O'Meara, Madam Mold, Her Salon and Her Friends; W. G. Palgrave, Ulysses, or Scenes and Studies in Many Lands; Politicus, New Social Teachings; J. Prestwich, Geology—Chemical, Physical and Stratigraphical, Vol. 1; J. A. Ragozin, The Story of the Chaldea; H. Reeve, editor, St. Petersburg and London, 2 vols.; T. W. Reid, Life of Hon. W. E. Forster, 2 vols.; J. M. Ross, Scottish History and Literature; Capt. S. Samuels, From the Forecastle to the Cabin; S. P. Scott, Through Spain; J. Shoenoff, The Industrial Situation; Sir G. W. Simpson, The Art of Golf; C. P. Sinnett, Incidents in the Life of Madam Blavatsky; A. Stickney, Democratic Government; W. M. Thackeray, A Collection of Letters of 1847–1855; M. Thornhill, Progress and Suppression of the Indian Mutiny; A. J. R. Trudell, Her Majesty's Colonies; C. Ullmann, Reformers before the Reformation, 2 vols.; C. Vambery, The Story of Hungary; T. S. Van Dyke, Southern California; Mrs. Howard Vincent, Forty Thousand Miles Over Land and Water; A. R. Wallace, Bad Times; T. H. Ward, The Reign of Queen Victoria, 2 vols.; H. P. Wells, The American Salmon Fisherman; E. P. Whipple, Recollections of Eminent Men; S. Whitman, Conventional Cant; Rev. A. C. Wilkinson, Reminiscences of King Ernest of Hanover, 2 vols.; Rev. A. C. Wilkinson, Reminiscences of Eton; C. R. Williams, The Defence of Kahun; J. W. Wells, Three Thousand Miles through Brazil, 2 vols.; W. Wilson, Congressional Government.

From W. C. Macdonald, Esq.: Works on Engineering and Electricity, 49 vols.; do, in paper covers, 25 vols.; Journal of the Society of Telegraph Engineers, 20 vols.

From the Dominion Government, Ottawa: Canadian Archives Report for 1891.

From Dr. Wm. Osler: The Principles and Practice of Medicine.

And the following pamphlets or books in paper cover:

From the Postmaster General, Ottawa: Report of the Department, 1890.

From the trustees of the Newberry library, Chicago: Proceedings for the year 1890.

From the Superintendent of Education, Nova Scotia: Annual report for 1890.

From the Northwestern University, Evanston, Ill.: Catalogue for 1890 91.

From the Canterbury College, New Zealand: Calendar for 1891.

From the author (Dr. F. W. Pecherman): Alcohol—Is it a Medicine?

From Sir J. W Dawson: An Index to Economic Products of the Vegetable Kingdom in Jamaica.

From the Canadian Institute, Toronto: Transactions, Vol. 1, Part 2; Fourth Annual Report, 1890–91; Time-Reckoning for the 20th Century, by Sandford Fleming.

From H. M. Ami, Geological Survey, Ottawa: On the Geology of Quebec and Environs.

From the Geological Survey, Ottawa: Contributions to Canadian Palæontology; On Vertebrata from the Tertiary and Cretaceous Rocks of the N.W. Territory, by E. D. Cope.

From Baron F. von Mueller: Key to the System of Victorian Plants, Part I

From the Trustees of the Australian Museum, Sydney: Records, Vol. I, No. 6, 1891.

From the University of Michigan: Calendar for 1890–91.

From the author (Rev. C. H. Hasskarl, Phila.), per Sir J. W. Dawson: How did the Universe originate, etc.

From the author (Rev. A. Chisholm, Inverness): The Bible in the Light of Nature, of Man and of God.

From the Royal University, Christiania, Norway: Catalogue for 1890.

And further, a large number of pamphlets and books in paper cover from various donors.

From W. C. McDonald, Esq., the following works:—A. Beringer, Elektrischen Krafi bertragung; L. Cadiat et Dubost, Traité Pratique d'Electricité. Industrielle; Dr. Julius, Der Electromagnetismus; Hippolyte Fontaine, Transmissions Electriques; do, Eclairage L'Electricité; Dr. O. Frolich, Die Dynamoelectrische Machine; Dr. Ernst Hagen, Die Electrische Bekuchtung; Edm. Hoppe, Geschichte der Elektrizitat; do, Die Accumulatorem fur Electricitat; Alfred Niaudet, Traité Elémentaire de la Pile Electrique; E. Wunschendorff, Traité du Télégraphe Sous Marine; J. Joubert, Traité Elémentaire d'Electricité; Philip Atkinson, Elements of Static Electricity; Barlow's Tables of Squares, Cubes, etc.; J. A. Berly, Bernier on the Voltaic Accumulator; Philip R. Bjorling, Practical Handbook on Pump Construction; do, Pumps, Historically, Theoretically and Practically Considered; C. R. Bodmer, Hydraulic Motors, Turbines and Pressure Engines, etc.; S. K. Bottone, Electro Motors: How Made and How Used; do., Electrical Instrument Making for Amateurs; do., The Dynamo: How Made, How Used; Wilfrid S. Boult, The Comprehensive International Wire Table; Alfred Crofts, How to Make a Dynamo: A Practical Treatise for Amateurs; Frederick Colyer, Pumps and Pumping Machinery, part II.; Paul F. Chalon, Le Tirage des Mines par l'Electricité; Lewis Campbell and Wm. Garnet, The Life of James Clerk Maxwell; Wm. Cullen, A Practical Treatise on the Construction of Horizontal and Vertical Water Wheels; R. E. Day, Exercises in Electrical and Magnetic Measurement; do., Electric Light Arithmetic; Latimer Clark and Robert Sabine, Electric Tables and Formulæ; Georges Dumont, Traité Pratique d'Electricité Appliqué à l'Exploitation des Chemins de Fer; J. A. Fleming, Short Lectures to Electrical Artisans; Georges Forbes, A Course of Lectures on Electricity; J. E. H. Gordon, A Practical Treatise on Electric Lighting; do., School Electricity; G. Gore, The Art of Electrolytic Separation of Metals, etc.; do, Electro-Chemistry, Inorganic; A. Gray, The Theory and Practice of Absolute Measurement in Electricity and Magnetism; do., Absolute Measurements in Electricity and Magnetism; H. R. Kempe, a Handbook of Electrical Testing; A. E. Kennelly and H. D. Wilkinson, Practical Notes for Electrical Students, vol. I; Gilbert Kapp, Electric Transmission of Energy; F. B. Badt, Dynamo Tenders' Handbook; do., Incandescent Wiring Handbook; C. H. Haskins, The Galvanometer and its Uses; Carl Hering, Principles of Dynamo Electric Machines; W. R. P. Hobbs, The Arithmetic of Electrical Measurement; H. R. Kempe, The Electrical Engineers' Pocketbook; Munro and Jamieson's Pocketbook of Electrical Rules and Tables; T. D. Lockwood, Electrical Measurement and the Galvanometer: Its Construction and Uses; D. Lardner and G. C. Foster, Handbook of Natural Philosophy; Oliver J. Lodge, Modern Views of Electricity; F. Kohlrausch, An Introduction of Physical Measurement; Henry M. Noad, The Student's Text-Book of Electricity; Benjamin Loewy, Questions

and Examples on Elementary Experimental Physics ; Oscar May, Popular Instructor for the Management of Electric Lighting Plant ; T. E. A. Mendenhall, Century of Electricity; James Clerk Maxwell, An Elementary Treatise on Electricity ; Stewart and Gee, Lessons in Elementary Practical Physics—2 copies—Vol. I. General Physical Processes, Vol. II. Electricity and Magnetism ; R. M. Parkinson, Structural Mechanics; Arthur Wm. Poyser, Magnetism and Electricity ; W. H. Preece and Julius Maier, The Telephone; Primers, The Electrician—Vol. I. Theory, Vol. I. Practice ; J. Russell Reynolds, Lectures on the Clinical Uses of Electricity ; D. Robertson, Potential and its Application to the Explanation of Electrical Phenomena ; Edward John Routh, The Elementary Part of a Treatise on the Dynamics of a System of Rigid Bodies ; Salt & Son, A Practical Description of Every Form of Medico-Electric Apparatus in Modern Use, etc. ; W. Slingo and A. Brooker, Electrical Engineering for Electric Light Artizans and Students ; W. E. Steavenson, Electricity and its Manner of Working in the treatment of Disease; Balfour Stewart, Lessons in Elementary Physics ; A. C. Alan Swinton, The Elementary Principles of Electric lighting ; R. Wormell, Electricity in the Service of Man ; Sir David Salomons, Electric Light Installations and the Management of Accumulators ; John Tyndal, Lessons in Electricity at the Royal In-titution, 1875–6 ; do., Faraday as a Discoverer ; Frederick Walker, Practical Dynamo Building for Amateurs ; Woodhouse & Rawson, Wiring Tables ; C. J. Woodward, Arithmetical Physics, Part II. Magnetism and Electricity ; W. P. Trowbridge, Turbine Wheels, etc. ; H. W. Watson and S. H. Burbury, Mathematical Theory of Electricity and Magnetism, 2 vols ; Sir W. Thomson, "Nature Series," Popular Lectures and Addresses ; Sir W. Thomson, Reprint of Papers on Electrostatics and Magnetism ; Sir Wm. Thomson and P. G. Tait, Treatise on Natural Philosophy, Vols. I and II ; J. J. Thomson, Applications of Dynamics to Physics and Chemistry ; G. W. de Tunzelmann, Electricity in Modern Life ; J. W. Urquhart, Electro-Motors ; J. W. Urquhart, Electric Light Fitting—A Hand-book for Working Electrical Engineers ; Dascom Green, An Introduction to Spherical and Practical Astronomy ; S. E. Warren, Descriptive Geometry ; do., General Problems of Shades and Shadows ; do., Linear Perspective ; do., Elements of Perspective Geometry; Warren's Plates ; S. E. Warren, Geometrical Free Hand Drawing ; do., Drafting Instruments and Operations ; do., Elementary Projection Drawing ; Elementary Linear Perspective ; do , Elementary Plane Problems ; C. J. White, The Elements of Theoretical and Descriptive Geometry : Roberts Beaumont, Woollen and Worsted Cloth Manufacture ; Mary L. Booth, Clock and Watchmakers' Manual ; M. Bresse, Water Wheels ; S. D. V. Burr, Tunnelling Under the Hudson River ; N. L. S. Carnot, Reflections on the Motive Power of Heat ; Extracts from Chordal's Letters ; J. P. Church, Mechanics of Engineering Fluids ; do., Solids and Fluids ; E. L. Corthel, The Mississippi Jetties ; J. D. Crehore, Mechanics of the Girder, Bridges and Roofs ; E. S. Dana, Handbook of Elementary Mechanics ; E. B. Dorsey, English and American Railroads Compared ; H. S. Drinker, Tunnelling, Explosive Compounds and Rock Drills ; A. J. Du Bois, The Strains in Framed Structures ; Manuel Eissler, Modern High Explosives ; Wolcott Foster, A Treatise on Wooden Trestle Work ; Wm. Ferrel, A Popular Treatise on the Winds ; W. H. Ford, Boiler Making ; H. C. Godwin, Railroad Engineers' Field Book ; R. Grimshaw, Steam Engine Catechism ; R. Grimshaw, Saw Filing ; F. F. Hemenway, Indicator Practice and Steam Engine Economy ; C. Hoadley. Warm Blast Steam Boiler Furnace ; H. W. Holly, The Art of Saw Filing ; W. Fitzgerald, Boston Machinist ; M. A. Howe, Retaining Walls for Earth ; J. R. Hudson, Tables ; M. Merriman, Roofs and Bridges, Part II. ; J. B. Krantz, Reservoir Walls ; The Lathe and Its Uses ; Philip Magnus, Elementary Mechanics ; D. H. Mahan, Civil Engineering ; do., Industrial Drawing ; W. H. Maw, Marine Engineering ; M. Merriman, Text-

Book on the Uses of Materials; H. Metcalfe, Cost of Manufactures; W. R. Nichols, Water Supply; G. Svedelius, Hand-book for Charcoal Burners, C. H. Peabody, Thermodynamics of the Steam Engine; do., Tables of the Properties of Saturated Steam and other Vapors; Thos. Pray, jun., Twenty Years with the Indicator; H. A. Reed, Photography applied to Surveying; Rontgen Du Bois, Thermodynamics; Angus Sinclair, Locomotive Engine Running and Management; W. H. Searles, Field Engineering; do., The Railroad Spiral; J. B. Smith, Treatise upon Wire, its Manufacture and Uses; do., Cable or Rope Traction; R. S. Smith, Topographical Drawing; H. W. Spangler, Valve Gears; R. H. Thurston, Development of the Philosophy of the Steam Engine; do., Stationary Steam Engine; do., Steam Boiler Explosions in Theory and Practice; do., Handbook of Engine and Boiler Trials and of the Indicator and Prony Brake; do., Manual of the Steam Engine, Part I; J. C. Trautwine, Field Practice of Laying Out Circular Curves; Edward Butts, Civil Engineers' Field Book; J. C. Trautwine, A Method of Calculating the Cubic Contents of Excavations and Embankments; W. P. Trowbridge, Tables and Diagrams relating to Non-Condensing Engines and Boilers; C. R. Howard, The Transition Curve Field Book; S. E. Warren, Problems in Stone Cutting; do., A Primary Geometry; P. J. Weisbach and A. Jay Du Bois, A Manual of the Mechanics of Engineering and of Construction of Machines, Vol. II.; A. M. Wellington, The Economic Theory of the Location of Railways; R. Wilson, A Treatise on Steam Boilers; T. D. West, Moulders Text-Book; do., American Foundry Practice; A. R. Wolfe, The Windmill as a Prime Mover; De Volson Wood, Theory of the Construction of Bridges and Roofs; do., Thermodynamics, Heat Motors and Refrigerating Machines; Wrinkles and Recipes compiled from the *Scientific American*, by Benjamin Mahan Thompson, Plates; 100 copies Chambers Mathematical Tables; W. Chauvenet, Spherical and Practical Astronomy; do., Plane and Spherical Trigonometry; G. C. Comstock, Elementary Treatise upon the Method of Least Squares; John Ericsson, Life of—by W. C. Church 2 vols.; R. H. Graham, Geometry of Position; H. S. Hall and S. R. Knight, Higher Algebra; Practical Iron Founding, Metal Turning; W. G. Kirkaldy, Mechanical Testing; G. F. Matthews, Manual of Logarithms; G. M. Minchin, Statics with Application to Physics; Benjamin Williamson, Treatise on the Integral Calculus; do., Treatise on the Differential Calculus; B. Williamson and F. A. Tarleton, Treatise on Dynamics; E. W. Young, Methods of Calculating Strains on Girders, etc.; Routh, Rigid Dynamics. In all, 295 volumes.

TO THE MUSEUM.

From Dr. Buller, Montreal: Carved Stone Vessel and Fossil Shells, Queen Charlotte Island.

From Dr. Wolfred Nelson, New York: Bones and Teeth of Elephants and Mastodon, from the Pleistocene of Texas.

From Frank D. Adams, B.A.Sc.: Collection of Tertiary Fossils, from Maryland, Virginia.

From the J. H. R. Molson Fund: Collection of Australian Plants; Collection of Pringle's Mexican Plants; Collection of North American Lichens.

From the Gray Herbarium, Harvard University, through Dr. S. Watson: Collection of European Plants.

From Mr. John Molson, Belmont Hall: Specimens of Sacred Ibis, Mummied Hawks, figures of Deities and Soudan dress from Egypt.

From Geological Survey of Canada, through Professor Macoun: Collection of Canadian Plants.

From W. F. Ferrier, B.A.Sc., Ottawa: Shells from the Loess.

From Joseph Riendeau, Montreal: Weathered Limestone from Ile du Cheval, Sorel.

From Milton L. Hersey, B.A.Sc., Montreal : Specimen of Cinnabar from New Almaden, California.

From Lieut.-Col. Grant, Hamilton, Ont.: Fossils from Silurian and Old Lake Margins, Ontario

From G. U. Hay, St. John, N.B.: Specimen of Labrador Tea (Ledum Latifolium).

From Rev. G. Elliott, Guelph, Ont.: Indian Vase from Lanark, Ont., and Wood from Lacustrine Deposit, Manitoba.

From Dr. and Mrs. Field, Barbadoes : two Specimens of Globe Fish (Diodon and Tetraodon); Specimen of Flying Fish (Exocetus Exilens); Specimen of Balanus tintinabulum.

From J. S. Buchan, B.C.L., Montreal : Rib of a Whale taken in the St. Lawrence, opposite Montreal.

From Baron Ferd. von Mueller, Melbourne, Australia : Collection of Australian Plants.

From W. L. Bailey, Waterville, Maine : Specimens of Cruziana, etc.

From James Reid, Allan house, Blairgowrie, Scotland : Collection of Fossil Fishes, Pterygotus and Fossil Plants from the Devonian, Scotland.

From Dr. G. M. Dawson, F.R.S., Ottawa : Head of Walrus from Behring Sea.

From G. R. Wieland, State College, Pennsylvania : Specimens of Siliceous Oolite.

From A. L. Cockayne, Christchurch, New Zealand : Collection of Plants.

From Baron F. von Mueller, Ph.D., Melbourne, Australia : Collection of Australian Plants.

From Dr. R. Dawson, B.A.: Thirteen Species of Cretaceous Fossils and a collection of recent Plants from the Queen Charlotte Islands.

From the U.S. Geological Survey, Washington : Cast of *Asaphus* with limbs.

From Wm. Patrick, Maccan, N.S.: Rocks and Fossils from Nova Scotia.

From H. M. Ami, F.G.S., Ottawa : Specimens of Fossil Sponges from the Utica Shale, Ottawa.

From H. Poole, Stellarton, N.S.: Specimens of *Calamites*.

From Baron F. von Mueller, Melbourne, Australia : Two Collections of Australian Plants.

From Lady Smith, Montreal : Four Table Cases for Specimens.

From Dr. G. M. Dawson, F.R.S., Ottawa : Sinnett from Tahiti.

From Robert Shanks, Mattawa, Ont., through Mr. R. A. Klock, B.A.: Specimen of Water Roots of the Ash.

From F. D. Adams, M.A.Sc.: Fish Remains from the Siluro Cambrian of Canon City, Colorado.

From Sir J. W. Dawson, F.R.S.: Fossil Plants, Millipedes and Scorpions from South Joggins, N.S.

From Dr. G. M. and Sir J. W. Dawson : Collection of objects from the Queen Charlotte Islands.

From Dr. Rankin Dawson : Shells and Starfishes from West Coast of British Columbia.

TO THE BOTANIC GARDEN.

Prof. J. Bemrose : Collection of Seeds of Medicinal Plants; Alfred Joyce : Seeds and Plants; Botanic Garden of the Sappero Agricultural College, Japan : Collection of Seeds; A. L. Cockayne, Christchurch, New Zealand : Collection of Seeds · Baron F. von Mueller, Melbourne, Australia : Collection of Australian Seeds; Collection of Australian Plants. Seed Lists from the Botanic Garden of the City of Lyons, France; Jardin des Plantes de Rouen; Botanic Gardens

of Antwerp; Botanic Gardens of Belgrade; Botanic Gardens of Trieste; Botanic Gardens of Utrecht; Botanic Gardens of Madrid; Botanic Gardens of Berlin; Royal Gardens, Kew; Botanic Garden of Lille; Botanic Garden of the City of Stockholm; Royal Gardens, St. Petersburg; Botanic Garden of Erlanger; Royal Botanic Garden, Edinburgh; Royal Botanic Garden, Glasnevin; Botanic Garden of Kolorvar; Botanic Garden of the University of Breslau; Botanic Garden, Copenhagen.

Observatory.

Latitude, N. 45° 30′ 17″. Longitude, 4h 54m. 18s. 55.

Height above sea level 187 ft.

Superintendent.—C. H. McLeod, Ma.E.

Assistant Superintendent.—G. H. Chandler, M.A.

Assistant.—E. Bolton, B.A.Sc.

Meteorological Observations are made every fourth hour, beginning at 3h 0m Eastern standard time; also at 8h 0m and 20h 0m. Independent bi-hourly temperature observations are also made. The principal instruments employed are the following:—Two standard mercurial barometers; one Kew standard thermometer; two Pastorelli thermometers; one maximum thermometer; one minimum thermometer; one set of six self-recording thermometers, with controlling clock, battery, etc.; two anemometers; one wind vane (wind-mill pattern), one anemograph, with battery, etc.; one sunshine recorder; one rain-band spectroscope; and one rain gauge.

The Anemometer and Vane are on the summit of Mount Royal, at a point about three quarters of a mile north west of the Observatory. They are 57 feet above the surface of the ground and 810 feet above sea level.

The Astronomical Equipment consists of:—The Blackman Telescope (6¼ in.); a photoheliograph (4½ in.); a 3¼ in. transit, with striding level; two 2 in. transits, arranged as collimating telescopes; one sidereal clock; one mean-time clock; one sidereal chronometer; one mean-time chronometer; one chronograph; batteries, telegraph lines and sundry minor instruments.

Observations for clock errors are made on nearly every clear night. Time exchanges are regularly made with the Toronto Observatory. Time signals are distributed throughout the city by means of the noon time-ball, continuous clock signals, and the fire alarm bells; and to the country, through the telegraph lines.

Observations of sun spots, for position and area, are made with the Blackman telescope and the photoheliograph.

The Blackman telescope is also employed in occasional work and for educational purposes.

University Gymnasium.

Instructor.—R. TAIT MCKENZIE, B.A., M.D.

The classes, which are open to Students of all the Faculties, will meet at the University Gymnasium, at hours to suit, as far as possible, the convenience of Students, and which will be announced at the commencement of the Session.

THE WICKSTEED SILVER AND BRONZE MEDALS FOR PHYSICAL CULTURE (the gift of Dr. R. J. Wicksteed) are offered for competition to Students of the graduating class and to Students who have had instruction in the Gymnasium for two sessions: the silver medal to the former, the bronze medal to the latter.

The award of these medals is made by Judges, appointed by the Corporation of the University.

Every competitor for the silver medal is required to lodge with the Judges, before the examination, a certificate of good standing in the graduating class, signed by the Dean or Secretary of the Faculty to which he belongs, and the medal will not be awarded to any Student who may fail in his examination for the degree.

Classes for the Students of the DONALDA SPECIAL COURSE for women will be conducted by MISS BARNJUM.

University Societies.

THE GRADUATES' SOCIETY OF McGILL UNIVERSITY.

INCORPORATED 1880.

OFFICERS FOR 1892-93.

President:

A. FALCONER, B.A., B.C.L.

Vice-Presidents:

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OTTAWA VALLEY GRADUATES' SOCIETY.

ORGANIZED 1890.

Hon.-President: HON. J. J. C. Abbott, D.C.L.

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Vice-Presidents: HENRY P. WRIGHT, M.D.
R. W. ELLS, LL.D.
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Treasurer: JEFFREY H. BURLAND, B.A.Sc.

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Committee: R. Cassels, B.A., Q.C.; R. H. Conroy, B.C.L.; D.Bogart Dowling, B.A.Sc.; G. F. Calder, B.A.; R. W. P owell, M.D.

UNIVERSITY LITERARY SOCIETY.

ESTABLISHED 1869.

OBJECTS.—The encouragement of literary and scientific pursuits, and the promotion of self-culture among the members.

President:

MR. A. R. OUGHTRED, B.C.L.

First Vice-President:
A. S. CROSS, B.A., B.C.L.

Second Vice-President:
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Corresponding Secretary:
J. M. FERGUSON, B.C.L.

Recording Secretary:
C. A. BARNARD, B.C.L

Treasurer:

F. W. HIBBARD, B.A., B.C.L.

Councillors: Messrs. Selkirk Cross, McGoun, Fry, Mallie, Parmelee and Yates.

UNDERGRADUATES' LITERARY SOCIETY.

CONSTITUTED 1880.

President: R. G. DAVEY.

1st Vice-President: W. DONAHUE.

2nd Vice-President: F. H. GRAHAM.

Treasurer: W. J. MESSENGER.

Secretary: H. A. HONEYMAN.

Assistant Secretary: F. LAMBERT.

Programme Committee: D. S. Hamilton, L. Greenberg, E. J. McIver, W. M. McKeracher, E. E. Howard.

MCGILL UNIVERSITY LIBRARY

McGILL COLLEGE YOUNG MEN'S CHRISTIAN ASSOCIATION.

OBJECT.—To promote the piety of its members and the cause of Christianity in the University.

MEMBERSHIP.—The active Membership of the Association shall consist of Graduates and Students of the University who are members of some Protestant church. Any Graduate and Student of good moral character may become an associate member. A social reception is given to new students at the beginning of the session.

SESSION 1891-92.

Hon. President:
SIR J. W. DAWSON, LL.D.

President:
R. M. CAMPBELL, Med., '94.

1st Vice-President:
D. S. HAMILTON, Arts, '92.

2nd Vice-President:
W. C. CONNOR, Sc., '94.

Corresponding Secretary:
P. C. LESLIE, Med., '95.

Recording Secretary:
A. A. ROBERTSON, B.A., Med., '94

Treasurer:
A. MACVICAR, Arts, '93.

Assistant Treasurer:
J. W. BAILLIE, Med., '95.

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Devotional: JAS. TAYLOR, Arts, '92.
Social Purity: H. N. GOFF, B.A., Med., '93.
On Handbook: H. S. SHAW, Med., '95.
Membership: AUG. GRAHAM, Arts, '94.
Social: F. DAY, Arts, '94.

McGILL UNIVERSITY ATHLETIC ASSOCIATION.

ESTABLISHED 1884.

Open for Membership to Undergraduates in this University.

President:
SIR WILLIAM DAWSON.

Vice-President:
WM. WALSH (Med.).

Secretary:
W. GREGORY SMART (Sc.).

Treasurer:
PROF. B. J. HARRINGTON, B.A., Ph. D.

Assistant Treasurer:
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IN AFFILIATION.

Foot-Ball Club.

President: ALEX. W. WALSH (Med.).

Vice-President: D. W. MACFARLANE (Sc.).

Sec.:—J. L. WALKER (Med.). | *Treas.*:—D. HAMILTON (Theology).

Hockey Club.

President: WM. WALSH (Med.). | *Sec.-Treasurer:* E. IRVING (Med.).

University Lawn Tennis Club.
Secy.: C. F. MARTIN, B.A.

McGill Cricket Club.
Secy.: F. W. HIBBARD, B.A., B.C.L.

DELTA SIGMA SOCIETY.

ESTABLISHED 1884.

President: Ethelwyn Pitcher.

Vice-President: Agnes James.

Secretary-Treasurer: Agnes Warner.

Assistant-Secretary: A. Maud Whiteaves.

Committee: Misses McDonald, Ogilvy and Reay.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

ESTABLISHED 1887 (AS THEODORA SOCIETY).

Object.—The development of Christian character in the members, and the development of active Christian work particularly among the young women of the University. Open for membership to students of the Donalda special course for women.

SESSION 1892-93.

President: Lovisa E. Hunt.

Vice-President: Isa Ogilvy.

Recording-Secretary: Rosalind Watson.

Corresponding-Secretary: Margaret Craig.

Treasurer: Katharine Travis.

Convener of Devotional and Bible Study Committee:
Ethel S. Radford.

Convener of Theodora (Missionary) Committee:
C. G. Seymour.

Convener of Membership Committee:
Jane E. F. Mackenzie.

MCGILL UNIVERSITY LIBRARY

University Extension Lectures.

UNDER THE SUPERINTENDENCE OF McGILL UNIVERSITY, MONTREAL, AND BISHOP'S COLLEGE, LENNOXVILLE.

SESSION 1892–93.

The Joint Board of Representatives of McGill University and the University of Bishop's College is prepared to organize and superintend courses of Lectures and Classes in populous centres for English-speaking audiences in the Province of Quebec.

OBJECT.

The purpose of the Local Lectures is to provide the means of higher education for persons of all classes and of both sexes engaged in the regular occupations of life. To obtain this object the Lectures will be organized upon the general lines which have been worked out successfully from twenty years experience in England.

PLAN OF THE LECTURES.

In order to make the teaching at the same time attractive and thorough, a special method is followed.

1. The courses consist of ten weekly lectures, each lecture occupying an hour.

2. For about an hour preceding or following each lecture a Class is held for those students who wish to study the subject more thoroughly. The teaching in the class is conversational, and its object is to enable the Lecturer to answer questions or solve difficulties which have occurred to students, and to give advice as to text-books and other means of studying the subject.

The ten Lectures and Classes, which may be given in the three months before or three months after Christmas, form a continuous course on one subject.

3. In order to enable Students to follow the lecture readily and to carry away the substance of it, a printed syllabus in pamphlet form is prepared beforehand by the Lecturer for the use of Students.

4. Questions (printed in the syllabus) are set upon each Lecture. Those who desire to answer the questions write their answers at home during the week, and forward them to the Lecturer for correction and comment.

5. At the end of the Course an examination is held by the Lecturer, and another Examiner appointed for the purpose by the Joint Board of the Universities. The examination is not compulsory. Only those are admitted to it who have

attended the Lectures and Classes to the satisfaction of the Lecturer, and have done such an amount of weekly paper-work as the Lecturer may have required.

A list of the Candidates who have satisfied the Lecturer and Examiner is published, the names being arranged in alphabetical order. The list also indicates those who are recommended both by the Lecturer and Examiner for special distinction. Certificates of Passing and of Distinction are granted, based upon (1) the Lecturer's Report of the weekly work, (2) the final examination.

It will be seen that this system is adapted at the same time to persons who desire merely a general acquaintance with the subjects taught and to Students who are anxious to make a more thorough study. The majority of the courses in the English system have been given in the evening, as the fundamental idea throughout has been education for busy people. The audiences have included persons drawn from all ranks of society and of the widest diversity of previous education and training.

SUBJECTS OF THE LECTURES.

The Universities expect to provide Lectures on subjects connected with

I. English Language and Literature.

II. History and Archæology.

III. Logic, Mental and Moral Philosophy, and Political Science.

IV. Chemistry and its applications.

V. Astronomy.

VI. Electricity and other branches of Physical Science.

VII. Botany and Zoology, Animal and Vegetable Physiology.

VIII. Mineralogy and Geology.

APPOINTMENT OF LECTURERS.

In accordance with the requirements of the General Council for the extension of University teaching, Lecturers are appointed by the Joint Board only upon recommendation by a University and after inquiry as to special qualifications and approval of the syllabus submitted. The choice of a lecturer and subject from the list approved by the Board is made in each case by the Local Centre concerned.

ORGANIZATION OF A CENTRE.

When it is desired to establish a course of Lectures, a Local Committee should first be got together, and a guarantee fund formed sufficient to cover the expenses of the Course. The Local Committee undertakes all responsibility for hire of rooms, lighting, printing and sale of tickets, etc.; it fixes the price of tickets according to the size and class of audience expected, with a view to making the Lectures self-supporting, and chooses the subject and the Lecturer, communicating its wishes to the Joint Board through its Secretary.

UNIVERSITY LIBRARY

EXPENSES OF A COURSE.

The payment to the Joint Board for a complete course of Ten Lectures and Classes, with examination, is $150. Incases where a lecturer from a distance is chosen, or much apparatus is used, travelling expenses and the cost of hiring apparatus will be an extra charge.

Further information may be obtained from the Secretary to the Joint Board, Professor J. Cox, McGill University, Montreal,

May, 1892.

REGULATIONS

AS TO COLLEGE GROUNDS.

Under the regulations of the Governors, restricting the use of the exercise grounds to College clubs, and until permanent arrangements can be made in connection with a new gymnasium on the grounds, the following rules are in force :—

1. The membership of all clubs using the grounds must consist exclusively of members of the University.

2. No damage must be done to fences, trees, grass, etc.

3. All clubs desiring to use the ground in the time of the statutory college session, *i.e*, from September 1st to May 1st, must register their officers, objects, rules and time desired, in the Principal's office, on or before September 20th in each year, when rights and privileges will be assigned to them.

4. Clubs desiring to use any portion of the grounds in the summer vacation that is, from May 1st to September 15th, shall register as above on or before April 1st.

5. No clubs not so registered can be recognized, nor any right of students no organized in regular clubs.

6. No club has any right to invite strangers, except by special permission of the Board of Governors.

7. The University Athletic Association may use the grounds for the training of its members from September 1st to date of the College sports, at such times as may be necessary. Tickets shall be furnished to Students so in training.

8. All the above privileges are subject to be revoked at any time by resolution of the Governors.

BENEFACTORS OF

McGill University, Montreal.

I. Endowments and Subscriptions of the University and of the Faculty of Arts.

1. ORIGINAL ENDOWMENT, 1811.

THE HONORABLE JAMES McGILL, who was born at Glasgow, 6th Oct., 1744, and died at Montreal, 19th Dec., 1813, by his last will and testament, under date 8th January, 1811, devised the Estate of Burnside, situated near the City of Montreal, and containing forty-seven acres of land, with the Manor House and Buildings thereon erected, and also bequeathed the sum of ten thousand pounds in money unto the "Royal Institution for the Advancement of Learning," a Corporation constituted in virtue of an Act of Parliament passed in the Forty-first Year of the Reign of His Majesty, King George the Third, to erect and establish a University or College, for the purpose of Education and the advancement of learning, in the Province of Lower Canada, with a competent number of Professors and Teachers to render such Establishment effectual and beneficial for the purposes intended; requiring that one of the Colleges to be comprised in the said University should be named and perpetually be known and distinguished by the appellation of "McGill College."

The value of the above-mentioned property was estimated at the date of the bequest at $120,000

2. UNIVERSITY BUILDINGS, ETC.

THE WILLIAM MOLSON HALL, being the west wing of the McGill College buildings with the connecting Corridors and Class Rooms, was erected in 1861, through the munificent donation of the founder whose name it bears.

THE PETER REDPATH MUSEUM, the gift of the donor whose name it bears, was announced by him as a donation to the University in 1880, and was formally opened to the public August, 1882.

THE WILLIAM C. McDONALD Physics building and equipment of same, the gift of William C. McDonald, Esq., announced by him as a gift to the University in 1890.

Lots for University buildings adjoining the College grounds fronting on McTavish St., presented by J. H. R. Molson, Esq.,—$42,500.

THE PETER REDPATH LIBRARY BUILDING, the gift of Peter Redpath, Esq., announced by him as a gift to the University in 1891.

3. THE DONALDA ENDOWMENT FOR THE HIGHER EDUCATION OF WOMEN.

This endowment, given by the Honorable Sir Donald A. Smith of Montreal, is for the education of women in the subjects of the Faculty of Arts, up to the standard of the examination for B A., in classes wholly separate, to constitute a separate Special Course or College for women,—$120,000.

4. ENDOWED CHAIRS, ETC.

THE MOLSON CHAIR OF ENGLISH LANGUAGE AND LITERATURE, in 1856, endowed by the Honorable John Molson, Thomas Molson, Esq., and William Molson, Esq., —$20,000, and supplemented in 1892 by John H. R. Molson, Esq., with a further sum of $20,000. Total $40,000.

THE PETER REDPATH CHAIR OF NATURAL PHILOSOPHY, in 1871, endowed by Peter Redpath, Esq.,—$20,000.

THE LOGAN CHAIR OF GEOLOGY, in 1871, endowed by Sir W. E. Logan, LL.D., F.R.S., and Hart Logan, Esq.,—$20,000.

THE JOHN FROTHINGHAM CHAIR OF MENTAL AND MORAL PHILOSOPHY, in 1873, endowed by Miss Louisa Frothingham,—$20,000.

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THE MAJOR HIRAM MILLS CHAIR OF CLASSICS, in 1882, endowed by the last will of the late Major Hiram Mills of Montreal,—$42,000.

THE DAVID J. GREENSHIELDS CHAIR OF CHEMISTRY AND MINERALOGY, in the Faculties of Arts and Applied Science, in 1883, endowed by the last will of the late David J. Greenshields, Esq., of Montreal, with the sum of $40,000, half of which is devoted to the Faculty of Arts.

THE WILLIAM C. MCDONALD CHAIR OF PHYSICS, in 1890, endowed by William C. McDonald, Esq.,—$50,000.

THE JOHN FROTHINGHAM PRINCIPAL FUND, to be invested for the endowment of the Principalship of the University; founded by the Rev. Frederick Frothingham and Mrs. J. H. R. Molson,—$40,000.

THE CHARLES GIBB BOTANICAL ENDOWMENT, received by subscriptions, the endowment to be invested by the Board of Governors and the income devoted to the maintenance of the Chair of Botany in the Faculty of Arts, and to procuring appliances therefor.

Miss Elizabeth C. Orkney,—$2,000.

Mrs. Catherine Hill,—$2,000.

W. C. MCDONALD PHYSICS BUILDING Maintenance Fund, endowed by W. C. McDonald, Esq., to be invested and interest used to meet the expense of Heating, Lighting, Insurance and salary of caretaker,—$40,000.

5. EXHIBITIONS AND SCHOLARSHIPS, ETC.

THE JANE REDPATH EXHIBITION, in the Faculty of Arts, $100 annually—founded in 1868 by Mrs. Redpath, of Terrace Bank, Montreal, and endowed with the sum of $1,667.

THE MCDONALD SCHOLARSHIPS AND EXHIBITIONS, 10 in number, in the Faculty of Arts—founded in 1871, and endowed in 1882 with the sum of $25,000, by William C. McDonald, Esq.—Annual value, $1,250.

THE CHARLES ALEXANDER SCHOLARSHIP, for Classics—founded in 1871 by Charles Alexander, Esq.—Annual value, $120.

THE BARBARA SCOTT SCHOLARSHIP FOR CLASSICAL LANGUAGE AND LITERATURE—founded by the last will of the late Miss Barbara Scott of Montreal, in the sum of $2,000, in 1884.—Annual value, $100.

THE GEORGE HAGUE EXHIBITION—founded in 1881 in the Faculty of Arts.—Annual value, $125.

THE MAJOR HIRAM MILLS MEDAL AND SCHOLARSHIP—in the Faculty of Arts, founded by the will of the late Major Hiram Mills of Montreal, and endowed with the sum of $1,500.—Annual value, $75.

T. M. THOMPSON, ESQ.—$250 for two Exhibitions in September, 1871; $200 for two Exhibitions in 1872,—$450.

REV. COLIN C. STEWART—for the "Stewart Prize in Hebrew,"—$60.

THE TAYLOR SCHOLARSHIP—founded in 1871, by T. M. Taylor, Esq.—Annual value, $100—terminated in 1878.

PROFESSOR ALEXANDER JOHNSON—for Scholarship for 3 Sessions, terminated 1886-7,—$350.

HER MAJESTY'S COMMISSION for the Exhibition of 1851—Nomination Scholarship for 1891, value £150 annually, tenable for two years.

THE PHILIP CARPENTER FELLOWSHIP—founded by Mrs. Philip Carpenter, for the Maintenance of a Post Graduation Teaching Fellowship or Scholarship in Natural Science or some branch thereof in the Faculty of Arts of McGill College, endowed with the sum of $7000.

A Lady to provide four (4) free tuitions in the Faculty of Arts for session 1892-3.

6. ENDOWMENTS OF MEDALS AND PRIZES.

In 1856 Henry Chapman, Esq., founded a gold medal, to be named the "Henry Chapman Gold Medal," to be given annually in the graduating class in Arts. This Medal was endowed by Mr. Chapman in 1874, with the sum of $700.

In 1860 the sum of £200, presented to the College by H.R.H. the Prince of Wales, was applied to the foundation of a Gold Medal, to be called the "Prince of Wales Gold Medal," which is given in the graduating class for Honour Studies in Mental and Moral Philosophy.

In 1864 the "Anne Molson Gold Medal" was founded and endowed by Mrs. John Molson, of Belmont Hall, Montreal, for an Honour Course in Mathematics and Physical Science.

In the same year the "Shakespeare Gold Medal," for an Honour Course, to comprise and include the works of Shakespeare and the Literature of England from his time to the time of Addison, both inclusive, and such other accessory subjcts as the Corporation may from time to time appoint, was founded and endowed by citizens of Montreal, on occasion of the three hundredth anniversary of the birth of Shakespeare.

In the same year the "Logan Gold Medal," for an Honour Course in Geology and Natural Science, was founded and endowed by Sir William Logan, LL.D., F.R.S., F.G.S., etc.

In 1874 a Gold and a Silver Medal were given by His Excellency the Earl of Dufferin, Governor General of Canada, for competition in the Faculty of Arts, and continued till 1878.

In 1875 the "Neil Stuart prize in Hebrew" was endowed by Neil Stuart, Esq., of Vankle k Hill, in the sum of $340.

In 1880 a Gold and Silver Medal were given by His Excellency the Marquis of Lorne, Governor General of Canada, the former for competition in the Faculty of Arts, the latter for competition in the Faculty of Applied Science; continued till 1883.

In 1883 a Gold, Silver and Bronze Medal were given by R. J. Wicksteed, Esq., M.A., LL.D., for competition in "Physical Culture" by Students in the Graduating Class and 2nd year, who have attended the University Gymnasium. The Gold Medal was continued to 1889 and the Silver and Bronze have been continued to date.

In 1884 a Gold and a Silver Medal were given by His Excellency the Marquis of Lansdowne, Governor General of Canada, the former for competition in the Faculty of Arts, the latter for competition in the Faculty of Applied Science, continued till 1888.

In 1888 a Gold and a Sliver Medal were given by His Excellency Lord Stanley, Governor General of Canada, the former for competition in the Faculty of Arts, the latter for competition in the Faculty of Applied Science.

THE "CHARLES G. COSTER MEMORIAL PRIZE" for general proficiency—given annually by Colin H. Livingstone, Esq., B.A., founded in 1889.

7. SUBSCRIPTIONS TO GENERAL ENDOWMENT.

1856.

John Gordon McKenzie, Esq.	$2000	Charles Alexander, Esq.	$600
Ira Gould, Esq.	2000	Moses E. David, Esq.	600
John Frothingham, Esq.	2000	Wm. Carter, Esq.	600
John Torrance, Esq.	2000	Thomas Patton, Esq.	600
James B. Greenshields, Esq.	1200	Wm. Workman, Esq.	600
William Busby Lambe, Esq.	1200	Hon. Sir A. T. Galt	600
Sir George Simpson, Knight	1000	Hon. Luther H. Holton	600
Henry Thomas, Esq.	1000	Henry Lyman, Esq.	600
John Redpath, Esq.	1000	David Torrance, Esq.	600
James McDougall, Esq.	1000	Edwin Atwater, Esq.	600
James Torrance, Esq.	1000	Theodore Hart, Esq.	600
Hon. James Ferrier	1000	William Forsyth Grant, Esq.	600
Harrison Stephens, Esq.	1000	Robert Campbell, Esq.	600
Henry Chapman, Esq.	600	Alfred Savage, Esq.	600
Honorable Peter McGill	600	James Ferrier, jun., Esq.	600
John James Day, Esq.	600	William Stephen, Esq.	600
Thomas Brown Anderson, Esq.	600	N. S. Whitney, Esq.	600
Peter Redpath, Esq.	600	William Dow, Esq.	600
Thomas M. Taylor, Esq.	600	William Watson, Esq.	600
Joseph McKay, Esq.	600	Edward Major, Esq.	600
Donald Lorn McDougall, Esq.	600	Honorable Charles Dewey Day	200
Hon. Sir John Rose	600	John R. Esdaile, Esq.	200

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1871.

William Molson, Esq	$5000	T. W. Ritchie, Esq	$600
William C. McDonald, Esq	5000	Messrs. A. & W. Robertson	600
Thomas Workman, Esq	5000	Messrs. Sinclair, Jack & Co	250
John Frothingham, Esq	5000	John Reddie, M.D	100
J. H. R. Molson, Esq	5000	Wm. Lunn, Esq	100
John McLennan, Esq	2000	Kenneth Campbell, Esq	100
B. Gibb, Esq	600	R. A. Ramsay, Esq	100
W. Notman, Esq	600	William Rose, Esq	50

1881-82.

Hugh McLennan, Esq	$5000	O. S. Wood, Esq	$1000
G. A. Drummond, Esq	4000	J. S. McLachlan, Esq	1000
Geo. Hague, Esq	3000	J. B Greenshields, Esq. (London)	1000
M. H. Gault, Esq	2000	Warden King, Esq	1000
Andrew Robertson, Esq	1000	W. B. Cumming, Esq	1000
Robertson Campbell, Esq	1000	Mrs. Hew Ramsay	500
Sir J. Hickson and Lady Hickson	1000	R. A. Ramsay, Esq	500
Mrs. Andrew Dow	1000	H. H. Wood, Esq	500
Alexander Murray, Esq	1000	James Burnett, Esq	500
Miss Orkney	1000	Charles Gibb, Esq	500
Hector McKenzie, Esq	1000		

1883-84.

Edward Mackay, Esq $5000

8. SUBSCRIPTIONS FOR CURRENT EXPENSES, 1881-82.

Principal Dawson	$1000	Being	$1000
J. H. R. Molson, Esq	1000	Per annum, 5 years, being	5000
George Stephen, Esq	1000	" "	5000
Hon. Donald A. Smith	1000	" "	5000
David Morrice, Esq	200	" "	1000
Messrs. Gault Brothers & Co	200	" "	1000
Messrs. S. H. & A. S. Ewing	200	" "	1000
Hon. Robert Mackay	300	Per annum, 2 years, being	600
Jonathan Hodgson, Esq	100	" 5 "	500
Geo. M. Kinghorn, Esq	100	" 5 "	500
Thomas Craig, Esq	100	" 2 "	200
John Rankin, Esq	200	Being	200
John Duncan, Esq	200	"	200
Robert Benny, Esq	100	"	100
Miss E. A. Ramsay	100	"	100
Hugh Paton, Esq	50	For 2 years, being	100
George Brush, Esq	25	For 5 years, being	125
J. M. Douglas, Esq	50	Being	50
James Court, Esq	50	"	50
David J. Greenshields, Esq	300	"	300

1887-88.

John H. R. Molson	$1000	Per annum, 3 years, being	$3000
W. C. McDonald, Esq	1000	" " "	3000
Peter Redpath, Esq	1000	" " "	3000
Hon. Sir D. A. Smith, K.C.M.G	1000	" " "	3000
Hon. Jas. Ferrier	500	" " "	1500
Sir Joseph Hickson	500	" " "	1500
Hugh McLennan, Esq	250	" " "	750
E. B. Greenshields, Esq	250	" " "	750
George Hague, Esq	250	" " "	750
John Molson, Esq	250	" " "	750
Samuel Finley, Esq	250	" " "	750

Mrs. Mackay,	1888-89	$100
Do	1889-90	100
Do	1890-91	100
Do	1891-92	100

9. TO PROVIDE SESSIONAL LECTURERS.

Hon. Sir Donald A. Smith,	1891-92	$3500
Do	1882-93	4000
Mrs. John H. R. Molson,	1891-92	300

II. *Endowments and Subscriptions for the Faculty of Applied Science*

1. BUILDINGS, CHAIRS, ETC.

THE WILLIAM SCOTT CHAIR OF CIVIL ENGINEERING, in 1884, endowed by the last will of the late Miss Barbara Scott, of Montreal,—$30,000.

THE DAVID J. GREENSHIELDS CHAIR OF CHEMISTRY AND MINERALOGY, in the Faculties of Arts and Applied Science, in 1883, endowed by the last will of the late David J. Greenshields, Esq., of Montreal, with the sum of $40,000, half of which is devoted to Faculty of Applied Science.

THE THOMAS WORKMAN DEPARTMENT OF MECHANICAL ENGINEERING—founded under the last will of the late Thomas Workman, Esq., and endowed with the sum of $117,000. The sum of $60,000 for the maintenance of a Chair of Mechanical Engineering, with the assistance, shops, machinery and apparatus necessary thereto, $57,000 to be expended in provision of necessary buildings, machinery and apparatus. Any balance of this to be added to the invested endowment for the maintenance of the said Department.

WILLIAM C. MCDONALD, Esq., toward erection of Thomas Workman Workshops, $20,000.

THE WILLIAM C. MCDONALD ENGINEERING BUILDING, and Equipment of same—announced by the donor as a gift to the University in 1890.

THE WILLIAM C. MCDONALD CHAIR OF ELECTRICAL ENGINEERING—endowed by William C. McDonald, Esq., in 1891 with the sum of $40,000.

MCDONALD ENGINEERING BUILDING Maintenance Fund, endowed by W. C. McDonald, Esq., in 1892, the income to be devoted to paying for Heating, Lighting, Insurance and Salary of Mechanician, $45,000.

2. EXHIBITIONS AND SCHOLARSHIPS.

THE SCOTT EXHIBITION—founded by the Caledonian Society of Montreal, in commemoration of the Centenary of Sir Walter Scott, and endowed in 1872 with the sum of $1,100, subscribed by members of the Society and other citizens of Montreal. The Exhibition is given annually in the Faculty of Applied Science —Annual value $60.

THE BURLAND SCHOLARSHIP—founded 1882, by J. H. Burland, B.A.Sc., $100 for a Scholarship in Applied Science, for three years, being $300.

HER MAJESTY'S COMMISSION for the Exhibition of 1851—Nomination Scholarship, value £150 annually, tenable for two years.

3. MEDALS AND PRIZES.

In 1885 the British Association Gold Medal, for competition in the Graduating class in the Faculty of Applied Science, was founded by subscription of members of the British Association for the Advancement of Science, and by gift of the Council of the Association, in commemoration of its meeting in Montreal in the year 1884.

(See also under Medals and Prizes in Section 1.)

4. ENDOWMENTS AND SUBSCRIPTIONS FOR MAINTENANCE OF FACULTY OF APPLIED SCIENCE.

Endowment Fund.

Daniel Torrance, Esq	$5000	Graduates' Endowment Fund—	
George Moffatt, Esq	1000	Class 1890—$70.00 a year for 5 years	$350
Charles J. Brydges, Esq	1000		

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Annual Subscriptions, 1871-1879.

Hon. James Ferrier (per annum, for 10 years)	$100	Miss Mary Frothingham (per annum, for 3 years)	$400
Peter Redpath, Esq. (per annum, for 10 years)	400	H. McLennan, Esq. (per annum, for 5 years)	100
John H. R. Molson, Esq. (per annum for 10 years)	400	A. F. Gault, Esq. (per annum, for 5 years)	100
George H. Frothingham, Esq. (per annum, for 7 years)	400	Gilbert Scott, Esq. (for 2 years)	100
T. James Claxton, Esq. (per annum, for 6 years)	100	Joseph Hickson, Esq. do ...	100
Donald Ross, Esq. (per annum, for 5 years)	50	Principal Dawson, do ...	300
		His Excellency the Marquis of Lorne	500
		Mrs. Redpath (Terrace Bank)...	100

Towards Maintenance of Engineering Department.

W. C. McDonald, Esq	$10,000
W. C. McDonald, Esq. (for advertising)	675

To provide lectures in Mechanical and Sanitary Engineering.

E. B. Greenshields, Esq	$ 50	Jeffrey H. Burland, B.A.Sc., $100 for 2 years	200
J. E. Bovey, Esq	50	Smaller amounts	40
Professor H. T. Bovey	61		

Chair of Practical Chemistry.

Hon. C. Dunkin, M. P	$1200	P. Redpath, Esq	$ 226
Principal Dawson	1200		

For Maintenance of Chair of Mining Engineering and Metallurgy, 1891.

R. B. Angus, Esq...	$2000 00			43500 00	6200 00
Mrs. Dow	1000 00		Dr. T. Brainerd	750 00	
Hugh McLennan, Esq	1000 00		A. F. Gault, Esq.	750 00	
Miss Benny	1000 00		Messrs. H. & A. Allan	750 00	
T. A. Dawes, Esq.	750 00		Hector McKenzie, Esq	750 00	
A. A. Ayer, Esq..	250 00		Peter Lyall, Esq	750 00	
G. W. Reid, Esq.	100 00		A. Robertson, Esq.	300 00	
Evans Bros	100 00		John Duncan, Esq.	300 00	
	—$6200 00		Geo Hague, Esq...	300 00	
Payable in three years.			Jonathan Hodgson, Esq	300 00	
Sir William Dawson	1500 00		James Moore, Esq..	200 00	
Alex. Stewart, Esq. (London, Eng.)	1500 00		Messrs. Ames & Holden	150 00	
R. C. Reid, Esq.	1500 00		Jas. Cooper, Esq..	150 00	
James Ross, Esq	600 00			—11,300 00	
E. K. Greene, Esq.	750 00				$17,500 00
	435 00	6200 00			

Class Rooms for Faculty of Applied Science, 1888.

John R. Molson, Esq	$3000	W. C. McDonald, Esq	3000

Surveying and Geodetic Apparatus.

W. C. McDonald, Esq	1500

5. LIST OF SUBSCRIBERS AND DONORS TO THE EQUIPMENT OF THE NEW ENGINEERING BUILDINGS OF McGILL UNIVERSITY, TO MAY, 1892.

Mrs. J. McDougall.....$4000
R. Hersey, Esq..... 1200
R. Reford, Esq..... 1000
Messrs. Garth & Co..... 500
Messrs. Warden King & Son .....
Two boilers
Messrs. Jordan & Locker.
Equipment
W. Ogilvie, Esq.....$500
J. A. Pillow, Esq..... 250
James Shearer, Esq 200
G. W. Reed, Esq..... 100
Messrs. A. Ramsay & Son..... 100
F. Scholes, Esq..... 100
Messrs. W. McNally & Co..... 100
A. Ewan, Esq..... 100
Mrs. Redpath..... 100
E. Chanteloup, Esq..... 50
Charles Sheppard, Esq 200
G. Sadler, Esq. (Robin & Sadler).
Belting ($400)
R. Reid, Esq.....Equipment
P Mitchell, Esq.....Equipment ($300)
Messrs. Twyford & Co. .... Equipment
D. McLaren, Esq.....$100
J. Robertson, Esq. $50 and Equipment
Kenneth Campbell, Esq $50
R. G. Reid, Esq 1000
W. Drysdale, Esq.....Tools
A. Macpherson, Esq..... .....Tools
Swan Lamp Mf'g. Co. .....Lamps
Messrs. E. & C. Gurney & Co.....$604
James Ross, Esq..... .....$500
H. R. Ives, Esq.....Cupola
G. R. Prowse, Esq..... .....Equipment
Jonathan Hodgson, Esq $200
Messrs. Hughes & Stephenson.....
Equipment
W. H. Hutton, Esq .....
G. A. Grier, Esq.....Equipment
S. Carsley, Esq..... .....$100
H. Graham, Esq 100
E. W. Rathbun, Esq..... 112
Messrs. Brodie & Harvey..... 50
W. Abbott, Esq.....Equipment
Henry Birks, Esq ....Clock
Kenneth Blackwell, Esq.....Equipment
A. Bremner, Esq $50
Campbell Tile Co., England, per
Jordan & Locker..... ..Equipment
F. Chadwick, Esq.....Truss Models
Crosby Steam Valve Co., Boston.
Indicator & Valves
John Date, Esq..... .....Equipment
D. Drysdale, Esq..... .....Tools
R. Forsyth, Esq..... .....Equipment
Messrs Frothingham & Workman.Tools
W. E. Gower, Esq .....
Messrs. Hearn & Harrison, per L.
Harrison, Esq.....Barometer & Clock
A. Holden, Esq.....Equipment
John Kennedy, Esq..... Equipment
J. Laurie & Bro .....Compound Engine
G. Brush, Esq..... .....Boiler
Messrs. Miller Bros. & Toms...Elevator
Wm. Kennedy, Esq. Owen Sound, Pump
Messrs. R & W. Kerr .....Tools
A. J. Lawson, Esq.....Equipment
Messrs. D. & J. McCarthy, Sorel...$300
Norton (The) Emery Wheel Co.,
Worcester, U. S.....Equipment
Wm. Notman, Esq.....Photographs
Rediator Co., Toronto $500
E. M. Renouf, Esq .....Books
Scovill Manufacturing Co.. Equipment
P. W. St George, Esq .....Models
Messrs. Tees & Co.....Equipment
Messrs. James Walker & Co .....Tools
George Bishop, Esq.....Equipment
The Edison General Electric Co...
Two 450 light dynamos
The Whittier Machine Co. (Boston).
Electric Elevator
The Thomson-Houston Co. (Boston)..... .....Incandescent dynamos
The Royal Electric Co.....
12 Arc Light dynamos
W. Rutherford, Esq..... .....Equipment
Messrs. J. Bertram & Sons (Dundas).....24in. Planer
Messrs. R. W. Gardner & Son.....
16in. Lathe
Dominion Wire Manfg. Co., per N.
Fairman, Esq.. .....Shaper
The B. F. Sturtevant Co. (Boston).
Blowers
The Geo. Blake Pump Co. (New
York and Boston) .....Pump
Ashton Valve Co. (Boston).....
Sectional Valve
Messrs. Siemens Bros. (London,
Eng.) .....Cable Samples
A. T. Taylor, Esq $300
H. T. Bovey, Esq .....Books
The National Electric Mf'g Co.....
Transformers
W. C. McDonald, Esq .....Equipment
M. Parker, Esq .....Equipment
Messrs. Robb & Armstrong.....
80 H. P. High Speed Engine
Messrs. Pratt & Whitney (Hartford, Conn.), Epicycloidal Gear Model
Messrs. Schaeffer & Budenberg
(Brooklyn, N. Y.)...Double Indicator
J. Costigan, Esq.....Equipment
H. Archbald, Esq.....Books
Herr Brockhaus .....Books
John Seeley, Esq.....Insulators
Messrs. Nalder Bros. & Co. (Eng.).
Standard Cell
Warrington Wire Co...Cable Samples
The Pelton Water Wheel Company
(New York)..... .....Two Motors
Union Iron Works (S. Francisco) Motor

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Yale & Towne Manufacturing Co. (Stamford, Conn.) ....Equipment
The Crooker-Wheeler Electric Motor Co. (New York)..... Motor
American Steam Gauge Company (Boston)..... .....Indicator
Messrs. John Wiley & Sons (New York)... ... .Books
Messrs. John Lovell & Sons.....Books
Professor Egleston (New York). Books
S. R. Earle, Esq.....Air Injector
EurekaTempered CopperCo.Equipment
W. Foster Brown & Co.(Encyc. Brit.)
Alf. Joyce..... ....$ 50
Hon. J. K. Ward..... 50
Peter Nicolson..... .... 1 00

The above representing a total value of $49,000.

III. *Endowments and Subscriptions in aid of the Faculty of Medicine.*

1. LEANCHOIL ENDOWMENT.

Sir Donald A. Smith, K.C.M.G..... ..... $50,000

2. CAMPBELL MEMORIAL ENDOWMENT—$63,000.

Established to commemorate the service rendered to the Faculty during 40 years by the late Dean George W. Campbell, M.D., LL.D.

Mrs. G. W. Campbell.....	$2000
H. A. Allan, Esq.....	1500
Sir D. A. Smith.....	1500
Sir George Stephen, Bart.....	1000
R. B. Angus, Esq.....	1000
George A. Drummond, Esq..	1000
Alex. Murray, Esq.....	1000
Robt. Moat, Esq.....	1000
W. C. McDonald, Esq	1000
A friend.....	1000
Duncan McIntyre, Esq	1000
Alex. Buntin. Esq...	1000
Al. F. Gault, Esq.....	1000
M. A. Gault, Esq.....	1000
G. W. Stephens, Esq.....	1000
James Benning, Esq.....	1000
R. P. Howard, M.D.....	1000
Frank Buller, M.D.....	1000
G. B. & J. H. Burland, Esqs.....	1000
Miss Elizabeth C. Benny.....	1000
J. C. Wilson, Esq.....	1000
Mrs. John Redpath.....	1000
Hon. John Hamilton.....	1000
Miss Orkney.....	1000
Hugh McKay, Esq	1000
Hector McKenzie, Esq.....	1000
Thomas Workman, Esq.....	1000
Hugh McLennan, Esq.....	1000
O. S. Wood, Esq...	1000
James Burnett, Esq.....	500
Andrew Robertson, Esq.....	500
Robt. McKay, Esq.....	500
John Hope, Esq.....	500
Alex. Urquhart, Esq.....	500
E. K. & G. A. Greene, Esqrs.....	500
R. A. Smith, Esq.....	500
George Hague, Esq.....	500
J. K. Ward, Esq..... ...	500
Warden King, Esq	500
John Sterling, Esq	500
John Rankin, Esq.....	$500
Messrs. Cantlie, Ewan & Co.....	500
Robt. Reford, Esq.....	500
Messrs. J. & W. Ogilvie.....	500
Randolph Hersey, Esq.....	500
John A. Pillow, Esq.....	500
S. Carsley, Esq.....	500
D. C. MacCallum, M.D.....	500
Messrs. McLachlan Bros.....	500
Messrs. S. Greenshields, Son &Co.	500
Jonathan Hodgson, Esq.....	500
Duncan McEachran, Esq., F. R. C.V.S....	500
Geo. Ross, M.D.....	500
T. G. Roddick, M.D.....	500
Wm. Gardner, M.D	500
G. P. Girdwood, M.D.....	500
G. E. Fenwick, M.D.....	500
Alex. Ramsay, Esq.....	500
Messrs. Cochrane, Cassils & Co.	500
Sir Joseph Hickson.....	500
Allan Gilmour, Esq. (Ottawa)...	500
R. W. Shepherd, Esq.....	500
Miles Williams, Esq.....	300
Chas. F. Smithers, Esq.....	250
John Kerry, Esq	250
A. Baumgarten, Esq	250
R. W. Elmenhorst, Esq.....	250
W. F. Lewis, Esq.....	250
Geo. Armstrong, Esq.....	250
J. M. Douglas, Esq	250
Messrs. H. Lyman, Sons & Co...	250
William Osler, M.D.....	250
F. J. Shepherd, M.D	250
Benj. Dawson, Esq.....	200
R. Wolff, Esq.....	150
James Stuart, M.D.....	150
A. T. Paterson, Esq	100
H. W. Thornton, M.D. (New Richmond, Q).....	100

M. E. David, Esq	$100
C. B. Hanvey, M.D. (Yale, B.C.)	100
D. Cluness, M.D. (Nanaimo, B.C.)	100
W. Kinlock, Esq	100
Hua & Richardson	100
Mrs. Cuthbert (New Richmond, Q.)	100
J. M. Drake, M.D	100
Hugh Paton, Esq	100
R. D. Godfrey, M.D	100
T. A. Rodger, M.D	100
W. A. Dyer, Esq	100
Geo. Wood, M.D. (Faribault, Minn.)	100
A. A. Browne, M.D	100
George Wilkins, M.D	100
R. L. McDonnell, M.D	100
Joseph Workman, M.D. (Toronto)	50
Hon. Sir A. T. Galt	50
Henry Lunam, B.A., M.D. (Campbellton, N.B.)	50
R. J. B. Howard, M.D	25
T. J. Alloway, M.D	25
Louis T. Marceau, M.D. (Napierville, Q.)	25
Griffith Evans, M.D. (Vet. Dept. Army)	25
J. J. Farley, M.D. (Belleville)	$ 25
Henry R. Gray, Esq	25
J. E. Brouse, M.D. (Prescott)	20
R. F. Rinfret (Quebec)	20
Robt. Howard, M.D. (St. Johns)	20
Drs. J. & D. McIntosh (Vankleek Hill)	20
J. H. McBean, M.D	15
J. C. Rattray, M.D. (Cobden, O.)	10
E. H. Howard, M.D. (Lachine)	10
J. W. Oliver, M.D. (Clifton, O.)	10
D. A. McDougall, M.D. (Ottawa, O.)	10
A. Poussette, M.D. (Sarnia, O.)	10
A. Ruttan, M.D. (Napanee, O.)	10
Jas. Gunn, M.D. (Durham, O.)	10
J. McDiarmid, M.D. (Hensall, O.)	5
W. J. Derby, M.D. (Rockland, O.)	5
J. Gillies, M.D. (Teeswater, O.)	5
J. B. Benson, M.D. (Chatham, N.B.)	5
L. A. Fortier, M.D. (St. David, Q.)	5
J. A. McArthur, M.D. (Fort Elgin, O.)	5
John Campbell, M.D. (Seaforth, O.)	5

3. MEDALS AND SCHOLARSHIPS.

In 1865 the "Holmes Gold Medal" was founded by the Medical Faculty as a memorial of the late Andrew Holmes, Esq., M.D., LL.D., late Dean of the Faculty of Medicine, to be given to the best student in the graduating class in Medicine, who should undergo a special examination in all the branches, whether Primary or Final.

In 1878 the "Sutherland Gold Medal" was founded by Mrs. Sutherland of Montreal, in memory of her late husband, Prof. William Sutherland, M.D., for competition in the classes of Theoretical and Practical Chemistry in the Faculty of Medicine, together with creditable standing in the Primary Examinations.

The David Morrice Scholarship—in the subject of Institutes of Medicine, in the Faculty of Medicine—founded in 1881—value $100. (Terminated in 1883.)

4. LIBRARY, MUSEUM AND APPARATUS.

For the fittings of the Library and Museum of the Faculty of Medicine, 1872.

G. W. Campbell, A.M., M.D	$1200
W. E. Scott, M.D	200
Wm. Wright, M.D	200
Robert P. Howard, M.D	200
Duncan C. MacCallum, M.D	200
Robert Craik, M.D	$200
Geo. E. Fenwick, M.D	200
Joseph M. Drake, M.D	200
George Ross, M.A., M.D	50
The Professors and Lecturers in the Summer Sessions of the Faculty of Medicine — Donation to Apparatus Museum, Library, etc., of the Medical Faculty, 1887, $1,182; 1888, $1,023.	2205

For Physiological Laboratory of Medical Faculty, 1879.

Dr. Campbell	$100
Dr. Howard	100
Dr. Craik	100
Dr. MacCallum	100
Dr. Drake	100
Dr. Godfrey	100
Dr. McEachran, F.R.C.V.S	100
Dr. Ross	$50
Dr. Roddick	50
Dr. Buller	50
Dr. Gardner	50
Dr. Osler	50
	$ 950

MCGILL UNIVERSITY LIBRARY

Cameron Obstetrical Collections.

Dr. J. C. Cameron $10,000

IV. *Endowments and Subscriptions of the Faculty of Law.*

1. ENDOWED CHAIRS.

THE GALE CHAIR, in the Faculty of Law, endowed by the late Mrs. Andrew Stuart (*née* Agnes Logan Gale) of Montreal, in memory of her father, the late Honourable Mr. Justice Gale,—$25,000; part received, May, 1892.

THE WILLIAM C. MCDONALD Law Faculty Endowment, founded by William C. McDonald, Esq. (1890)—$150,000.

2. MEDAL.

In 1865 the "Elizabeth Torrance Gold Medal" was founded and endowed by John Torrance, Esq., of St. Antoine Hall, Montreal, in memory of the late Mrs. John Torrance, for the best student in the graduating class in Law, and more especially for the highest proficiency in Roman Law.

V. *Subscriptions and Donations for Special Objects.*

1. FOR APPARATUS.

William Molson, Esq., Philosophical Apparatus, 1867	$ 500	Chas. Gibb, B.A., donation for Apparatus in Applied Science	$50
John H. R. Molson, Esq., for the same	500	The Local Committee for the reception (1881) of American Society of Civil Engineers	
Peter Redpath, Esq., for the same	500	For the purpose of appliances for the department of Civil Engineering in Faculty of Applied Sc.	475
George Moffatt, Esq., for the same	250	Capt. Adams, Chemical Apparatus	10
Andrew Robertson, Esq., for the same	100	J. H. Burland, B.A. Sc., Chemical Apparatus	25
John Frothingham, Esq., for the same	100	Mrs. Redpath, Storage battery	400
David Torrance, Esq., for the same	100	W. C. McDonald, Esq., fittings of upper Chemical Laboratory	2075
A Telescope and Astronomical Instruments, the gift of Chas. T. Blackman, Esq., of Montreal, and called after his name.		The Local Committee of the British Association for the Advancement of Science, to found the British Association Apparatus Fund in the Faculties of Arts and Applied Science, in commemoration of the meeting of the Association in Montreal in 1884	1500
Thos. J. Barron, B.A., for Philosophical Apparatus	50	A. J. Lawson, a Dynamo.	
J. H. R. Molson, Esq., Dynamo, Gas Engine and fixtures	1792	Benjamin Dawson, 3 Microscopes.	
A Lady, for the purpose of Mining Models	1000		
Thos. McDougall, Esq., for the same	25		
J. Livesey, Esq., through Dr Harrington, for the same	50		
Geo. Stephen, Esq., for the same.	50		

2. FOR LIBRARY, MUSEUM AND LABORATORIES.

John Thorburn, for purchase of Books	$ 90	A Lady for Museum Expenses, from 1882 to 1891	6000
Andrew Drummond, do for Applied Science	25	A friend for the purchase of specimens for the Museum	1900
T. J. Claxton, Esq., for purchase of Specimens for Museum	250	Wm. Molson, Esq., for Library Fund	4000

Wm. Molson, Esq., for Museum Fund	$2000
Hon. F. W. Torrance, for Mental and Moral Philosophy Book Fund	1000
Mrs. Redpath, for the endowment of the Wm. Wood Redpath Library Fund	1000
A Friend, by the Hon. F. W. Torrance	400
Peter Redpath, Esq., for Museum Expenses, $1000 per annum from 1882 to 1891	10,000
Mrs. H. G. Frothingham, for the arrangement of Dr. Carpenter's Collection of Mazatlan shells	233
Peter Redpath, Esq., for improvements to Museum	1000
The Graduates in Arts and Applied Science of 1885 for purchase of Books	31
Do of 1886	28
The late R. A. Ramsay, Esq., Bequest for purchase of books	1000
John H. R. Molson for purchase of book on "Butterflies of Eastern U.S. and Canada"	$50
Andrew Drummond, Esq., to Library Fund of Faculty of Applied Science	25
Sir Donald A. Smith, for purchase of books from the R. W. Boodle Library	200
Ottawa Valley Graduates Society, for binding books in the University Library	25
Hon. Sir Donald A. Smith, for mounting skin and skeleton of Musk Ox	150
Hugh S. McLennan, Library Endowment, a gift from Estate late Hugh S. McLennan, to the Library of McGill College, the income to be applied to binding	250
Peter Redpath, Esq., in aid of the new catalogue of the Library (1892)	500

3. FOR A BUILDING FOR THE CARPENTER COLLECTION OF SHELLS, 1868.

Peter Redpath, Esq	$500
William Molson, Esq	500
Harrison Stephen, Esq	100
Robert J. Reekie, Esq	100
John H. R Molson, Esq	100
Sir Wm. E. Logan, Esq., F.R.S.	100
John Molson, Esq	100
Thos. Workman, Esq., M.P	100
Geo. H. Frothingham, Esq	100
Wm. Dow, Esq	$100
Thos. Rimmer, Esq	100
Andrew Robertson, Esq	100
Mrs. Redpath	100
Benaiah Gibb, Esq	50
Honorable John Rose	50
	$2,200

4. FOR THE ERECTION OF THE LODGE AND GATES.

William Molson, Esq	$100
John H. R. Molson Esq	100
Willian Workman, Esq	100
Joseph Tiffin, jun., Esq	100
Thos. J. Claxton, Esq	100
James Linton, Esq	100
William McDougall. Esq	100
Charles J. Brydges, Esq	100
George A. Drummond, Esq	100
Thomas Rimmer, Esq	100
William Dow, Esq	100
John Frothingham, Esq	$100
James A. Mathewson, Esq	100
Peter Redpath, Esq	100
G. H. Frothingham, Esq	100
G. D. Ferrier, Esq	100
Geo. W. Warner, Esq	100
John Smith, Esq	100
Charles Alexander, Esq	100
J. Evans, Esq	100
Henry Lyman, Esq	100

5. FOR THE SUPPORT OF THE CHAIR OF BOTANY, 1883-84.

Principal Dawson	$500	Per annum, 5 years, being		$2500
Hon. Sir D. A. Smith	250	" " "		1250
J. H. R. Molson, Esq	100	" " "		500
Mrs. J. H. R. Molson	100	" " "		500
G. Hague, Esq	100	" " "		500
Mrs. Redpath	100	" " "		500

MCGILL UNIVERSITY LIBRARY

Hugh McKay, Esq	$100	Per annum, 5 years, being			$500
Robert Moat, Esq	100	"	"	"	500
W. C. McDonald, Esq	100	"	"	"	500
Charles Gibb, Esq	50	"	"	"	250
Miss Orkney	50	"	"	"	250
Robert McKay, Esq	50	"	"	"	250
Mrs. Molson	50	"	"	"	250
Mrs. John Molson	50	"	"	"	250
John Stirling, Esq	50	"	"	"	250
Warden King, Esq	50	"	"	"	250
Miss Hall	50	"	"	"	250
Robert Angus, Esq	50	"	"	"	250
D. A. P. Watt, Esq	50	"	"	"	250
Hugh McLennan, Esq	25	"	"	"	125
Sir Joseph Hickson	10	"	"	"	50
Mrs. Phillips	10				10

6. SUBSCRIPTIONS TO BOTANIC GARDEN, 1890-91.

Hugh McLennan	$100	Jonathan Brown	$100
Gilman Cheney	100	Jonathan Hodgson	100
James Johnston	100	Robert Mackay	100
James Slessor	100	H. Shorey	50
A friend	100	J. S. Shearer	50
Hugh Graham	100	Geo. Sumner	25
A. F. Gault	100	A. Ramsay & Co	25
W. T. Costigan	100	Garth & Co	25

7. IN AID OF THE CHAIR OF HEBREW, 1889.

Warden King, Esq	$50	Per annum, 3 years, being			$150
Principal Sir William Dawson	50	"	"	"	150
Hon. Hugh Mackay	50	"	"	"	150
A. F. Gault, Esq	25	"	"	"	75
Geo. Hague, Esq	25	"	"	"	75
T. A. Dawes, Esq	25	"	"	"	75
S. Carsley, Esq	25	"	"	"	75

1892.

S. Davis, Esq $20

8. FOR MUSICAL INSTRUCTION IN THE DONALDA SPECIAL COURSE FOR WOMEN.

Hon. Sir Donald A. Smith, session 1889-90 200
" " " " 1890-91 200

9. FOUNDER'S TOMB.

R. A. Ramsay, M.A., B.C.L., to defray the expenses of re-erecting the tomb of the late Hon. James McGill $150

9. ENDOWMENT, HELD IN TRUST BY THE BOARD OF ROYAL INSTITUTION.

The "Hannah Willard Lyman Memorial Fund," contributed by subscription of former pupils of Miss Lyman, and invested as a permanent endowment, to furnish annually a Scholarship or Prize in a "College for Women" affiliated to the University, or in classes for the Higher Education of Women approved by the University. The amount of the fund is at present $1,100.

10. SPECIAL COLLECTION OF BOOKS PRESENTED TO THE LIBRARY.

1. The Peter Redpath Collection of Historical Books, presented by Peter Redpath, Esq., of Montreal, 2676 Volumes.
2. The Robson Collection of works in Archæology and General Literature, presented by Dr. John Robson, of Warrington, England, 3436 Volumes.

3. The Charles Alexander Collection of Classical Works, presented by C. Alexander, Esq., of Montreal, 221 Volumes.
4. Frederick Griffin, Esq., Q.C., Collection of Books, being the whole of his Library, bequeathed by his will, 2695 Volumes.
5. The Hon. Mr. Justice MacKay, Collection of Books, being the whole of his Library, 2007 Volumes.
6. The "T. D. King Shakespeare Collection," presented by the Hon. Sir Donald A. Smith and W. C. McDonald, Esq., of Montreal, being 214 Volumes.

11. SPECIAL COLLECTIONS PRESENTED TO THE MUSEUM.

1. The Holmes Herbarium, presented by the late Andrew F. Holmes, M.D.
2. The Carpenter Collections of Shells, presented by the late P. P. Carpenter, Ph. D.
3. The Collection of Casts of Ivory Carvings issued by the Arundel Society, presented by Henry Chapman, Esq.
4. The McCulloch Collection of Birds and Mammals, collected by the late Dr. M. McCulloch, of Montreal, and presented by his heirs.
5. The Logan Memorial Collections of Specimens in Geology and Natural History, presented by the heirs of the late Sir W. E. Logan, LL.D., F.R.S.
6. The Dawson Collection in Geology and Palæontology, being the Private Collections of Principal Dawson, presented by him to the Museum.
7. The Portrait of Peter Redpath, Esq., painted by Mr. Sidney Hodges of London, and presented by Citizens of Montreal.
8. The Bowles Collection of Lepidoptera, presented by W. C. McDonald, Esq., and J. H. Burland, Esq.
9. R. Morton Middleton, Jr., London, Eng. Collection of Plants.

(See also "List of Donations to the Library and Museum," printed annually in the Calendar and Report of the Museum.)

VI. *The Graduates' Fund.*

1. THE FUND FOR ENDOWMENT OF THE LIBRARY.

The Graduates' Society of the University, in 1876, passed the following Resolution:—

Resolved:—"That the members and graduates be invited to subscribe to a "fund for the endowment of the Libraries of the University; said fund to be in- "vested and the proceeds applied under the supervision of the Council of the "Society in annual additions to the Libraries; an equitable division of said pro- "ceeds to be made by the Council between the University Library and those of "The Professional Faculties."

In terms thereof the following subscriptions have been announced to date, May 1st, 1889. They are payable in one sum, or in instalments, as subscribers have elected.

Alphabetically arranged.

Baynes, O'Hara, B.C.L.	$ 50	Hall, Rev. W., M.A.	$ 10
Bethune, M. B., M.A., B.C.L.	50	Harrington, B. J., B.A., Ph.D.	50
Blackader, Alex. D., B.A., M.D.	50	Holton, Edward, B.C.L.	100
Burland, J. H., B.A.Sc.	120	Hutchinson, M., B.C.L.	5
Browne, A. A., B.A., M.D.	50	Keller, F. J., B.C.L.	25
Cline, J. D., B.A., M.D.	25	Kelley, F. W., B.A., Ph.D.	100
Cushing, Lemuel, LL.D., B.C.L.	25	Laing, Rev. R., M.A.	100
Dougall, J. R., M.A.	50	Lyman, F. S., B.A., B.C.L.	50
Ells, R. W., LL.D.	50	Lyman, H. H., M.A.	100
Empson, Rev. J., M.A.	25	Mackenzie, Fred., B.C.L.	100
Gardner, Wm., M.D.	100	Maclaren, J. J., M.A., D.C.L.	100
Gibb, Charles, B.A.	50	Macleod, C. H., Ma.E.	50
Gilman, F. E., LL.D., B.C.L.	100	Macmaster, D., B.C.L.	100
Gould, C. H., B.A.	100	Marler, Wm. deM., B.A., B.C.L.	125
Hall, J. S., jun., B.A., B.C.L.	50	McCord, D. R., M.A., B.C.L.	100

McGregor, James, LL.D	$ 80
Molson, Wm., M.D	100
Osler, Wm., M.D	100
Ramsay R. A., M.A., B.C.L	100
Rexford, Rev. E. I., B.A	50
Robertson, Alex., B.A	100
Robins, S. P., LL.D	50
Roddick, T. G., M.D	$100
Ross, George, M.A., M.D	100
Shepherd, F. J. M.D	100
Torrance, J. F., B.A., B.A.Sc	100
Trenholme, N. W., M.A., D.C.L	100
Total to date	$3,090

2. THE DAWSON FELLOWSHIP FOUNDATION.

The Graduates Society of the University, in 1880, and in commemoration of the completion by Dr. Dawson of his twenty-fifth year as Principal, resolved to raise, with the assistance of their friends, a fund towards the Endowment of the Fellowship, under the above name.

Details of the scheme can be had from the Treasurer, C. H. McLeod, Esq., Ma.E. The following subscriptions have been announced to date, May 1st, 1889. They are payable in one sum, in instalments, without interest or with interest till payment of capital, as subscribers have elected.

Alphabetically arranged.

Abbott, H., B.C.L	$ 60
Archibald, H., B.A.Sc	20
Bethune, M. B., M.A., B.C.L	50
Carter, C. B., B.C.L	100
Cruickshank, W. G., B.C.L	100
Dawson, W. B., M.A., Ma.E	50
Dougall, J. R., M.A	250
Gibb, C., B.A	100
Hall, Rev. Wm., M.A	100
Hall, J. S., jun., B.A., B.C.L	100
Harrington, B. J., B.A., Ph.D	50
Hutchinson, M., B.C.L	400
Kirby, J., LL.D., D.C.L	50
Krans, Rev. E.H., M.A., LL.D	100
Leet, S. P., B.C.L	100
Lighthall, W. D., M.A., B.C.L	100
Lyman, H. H., M.A	$ 100
Lyman, A. C., M.A., B.C.L	50
McCormick, D., B.C.L	100
McGibbon, R. D., B.A., B.C.L.	100
McGoun, A., jun., M.A., B.C.L.	50
McLennan, J. S., B.A	100
Ramsay, R. A., M.A., B.C.L	50
Spencer, J. W., B.A.Sc., Ph.D	50
Stephen, C. H., B.C.L	100
Stewart, D. A., B.A.Sc	20
Stewart, J., M.D	60
Tait, M. M., B.C.L	100
Taylor, A. D., B.A., B.C.L	100
Trenholme, N. W., M.A., D.C.L.	400
Total to date	$3,010

APPENDIX.

ELOCUTION.

Advanced Classes in Elocution will be opened in the Faculty of Arts in the Session of 1892-3.

ONTARIO MATRICULATION EXAMINATIONS.

Doubts having been expressed as to the meaning of the clause referring to these, on page 19, paragraph 3, it may be explained that the examinations there referred to are accepted for matriculation in Arts when the subjects taken are the same as or equivalent to those required in McGill.

FREE TUITIONS IN ARTS.

Changes in regard to these are under consideration, and it is hoped that some definite announcement may be made in relation to them by advertisement before the beginning of the Session of 1892-3. A lady of Montreal has kindly presented the sum of $120 toward this object.

Mr. Leigh R. Grigor, B.A., late Modern Languages Master in the Montreal High School, and at present pursuing advanced studies in Germany, has been appointed Lecturer in German Language and Literature.

Mr. Charles H. Gould, B.A., has been appointed University Librarian in connection with the new Peter Redpath Library, and on the endowment of the same liberally provided by Mr. Redpath.

McGILL UNIVERSITY LIBRARY

EXAMINATION PAPERS

OF THE

McGILL UNIVERSITY,

MONTREAL.



SESSION OF 1891-92.

Montreal:

PRINTED BY JOHN LOVELL & SON,
ST. NICHOLAS STREET.
1892.

McGILL UNIVERSITY LIBRARY

ORDER OF EXAMINATION PAPERS.

1. FACULTY OF ARTS.

PAGE

MATRICULATION, SCHOLARSHIPS AND EXHIBITIONS, 1891 3

SESSIONAL EXAMINATIONS, 1892.

CLASSICS:—*Ordinary* 65
" *Honour* 88
MATHEMATICS AND NATURAL PHILOSOPHY:—*Ordinary* 109
" " " " *Honour* 123
ENGLISH LANGUAGE AND LITERATURE:—*Ordinary* 142
" " " *Honour* 153
LOGIC, MENTAL AND MORAL PHILOSOPHY:—*Ordinary* 180
" " " " *Honour* 184
FRENCH:—*Ordinary* 192
" *Honour* 200
GERMAN:—*Ordinary* 206
" *Honour* 212
HEBREW 214
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3. UNIVERSITY SCHOOL EXAMINATIONS.

PRELIMINARY SUBJECTS 269
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UNIVERSITY LIBRARY

MATRICULATION, SCHOLARSHIPS AND EXHIBITIONS, 1891.

FIRST YEAR.

GREEK.

MONDAY, SEPT. 14TH :—MORNING, 9 TO 12.

Examiner, ... A. J. EATON, M.A., PH.D.

[NOTE.—Candidates will do (A), translate *one* of the passages of (B), and answer the questions printed at the end of that passage.]

(A)

1. Decline (marking the accent) πολίτης, νῆσος, λέων, βασιλεύς, οὗτος, ἀληθής, εἷς.

2. Compare adjectives σαφής, σόφος, ἡδύς, ἀγαθός: form and compare adverbs from the same words.

3. Define the term *stem*. Give the stem of λόγος, λέων, βασιλεύς λείπω, τίθημι.

4. Inflect the present, imperfect, and perfect indicative, active, of λύω; future optative, middle, of φαίνω; 2 aor. subjunctive, active, of δίδωμι.

5. Give the principal parts of λείπω, ἄγω, στέλλω, ἵστημι.

6. Give the meaning of the following prepositions, and the case which they govern : ἀντί, ἐν, μετά, παρά.

7. Translate and explain the following constructions : (*a*) ταῦτα ἐγένετο. (*b*) ὁ αὐτὸς ἀνήρ. (*c*) πίνει τοῦ οἴνου. (*d*) πολλῷ κρεῖττόν ἐστιν. (*e*) εἰ τοῦτο ἀληθές ἐστι, χαίρω.

(B)

I. (*a*) Κῦρος δὲ τούτοις ἀπορῶν τε καὶ λυπούμενος μετεπέμπετο τὸν Κλέαρχον· ὁ δὲ ἰέναι μὲν οὐκ ἤθελε, λάθρᾳ δὲ τῶν στρατιωτῶν πέμπων αὐτῷ ἀγγελον ἔλεγε θαῤῥεῖν, ὡς καταστησομένων τούτων εἰς τὸ δεινὸν· μεταπέμπεσθαι δ' ἐκέλευεν αὐτόν· αὐτὸς δ' οὐκ ἔχη ἰέναι. Μετὰ δὲ ταῦτα συναγαγῶν τοὺς θ ἑαυτοῦ στρατιώτας καὶ τοὺς προσελθόντας αὐτῷ καὶ τῶν ἄλλων τὸν βουλόμενον

ἔλεξε τοιάδε· ἄνδρες στρατιῶται, τὰ μὲν δὴ Κύρου δῆλον ὅτι οὕτως ἔχει πρὸς ἡμᾶς, ὥσπερ τὰ ἡμέτερα πρὸς ἐκεῖνον· οὔτε γὰρ ἡμεῖς ἐκείνου ἔτι στρατιῶται, ἐπεί γε οὐ σιεμπόμεθα αὐτῷ, οὔτε ἐκεῖνος ἔτι ἡμῖν μισθοδότης.

(*b*) Καὶ τὸ μὲν τὰ μεγάλα νικᾶν τοὺς φίλους εὖ ποιοῦντα οὐδὲν θαυμαστόν, ἐπειδή γε καὶ δυνατώτερος ἦν· τὸ δὲ τῇ ἐπιμελείᾳ περιεῖναι τῶν φίλων καὶ τῷ προθυμεσθαι χαρίζεσθαι, ταῦτα ἔμοιγε μᾶλλον δοκεῖ ἀγαστὰ εἶναι. Κῦρος γὰρ ἔπεμπε βίκους οἴνου ἡμιδεεῖς πολλάκις, ὁπότε πάνυ ἡδὺν λάβοι, λέγων ὅτι οὔπω δὴ πολλοῦ χρόνου τούτου ἡδίονι οἴνῳ ἐπιτύχοι· τοῦτον οὖν σοὶ ἔπεμψε καὶ δεῖτις σον τήμερον τοῦτον ἐκπιεῖν σὸν οἷς μάλιστα φίλεῖς. Πολλάκις δὲ χῆνας ἡμιβρώτους ἔπεμπε καὶ ἄρτων ἡμίσεα καὶ ἄλλα τοιαῦτα, ἐπιλέγειν κελεύων τὸι φέροντα· Τούτοις ἥσθη Κῦρος· βούλεται οὖν καὶ σὲ τούτων γεύσασθαι.

Xen. Anab. Bk. I.

(1) Expain the case of τούτοις, στρατιωτῶν, αὐτῷ, ἄλλων, Κύρου, ἡμῖν, τὰ μεγάλα, φίλων. (2) Account for the mood of νικᾶν, περιεῖναι, λάβοι, ἐπιτύχοι. (3) Derive μισθοδότης, ἡμιδεεις, ἡμιβρώτους.

II. (*a*) Ἦν δὲ αὕτη ἡ στρατηγία οὐδὲν ἄλλο δυναμένη ἢ ἀποδρᾶναι ἢ ἀποφυγεῖν· ἡ δὲ τύχη ἐστρατήγησε κάλλιον. ἐπεὶ γὰρ ἡμέρα ἐγένετο, ἐπορεύοντο ἐν δεξιᾷ ἔχοντες τὸν ἥλιον, λογιζόμενοι ἥξειν ἅμα ἡλίῳ δύνοντι εἰς κώμας τῆς Βαβυλωνίας χώρας· καὶ τοῦτο μὲν οὐκ ἐψεύσθησαν. ἔτι δὲ ἀμφὶ δείλην ἐδοξαν πολεμίους ὁρᾶν ἱππέας· καὶ τῶν τε Ἑλλήνων οἳ μὴ ἔτυχον ἐν ταῖς τάξεσιν ὄντες εἰς τὰς τάξεις ἐθεον, καὶ Ἀριαῖος, ἔτυγχατε γὰρ ἐφ' ἁμάξης πορευομενος διότι ἐτέτρωτο, καταβὰς ἐθωρακίζετο καὶ οἱ σὺν αὐτῷ. ἐν ᾧ δὲ ὡπλίζοντο ἦκον λέγοντες οἱ προπεμφθέντες σκοποι ὅτι οὐχ ἱππεῖς εἰσιν ἀλλ' ὑποζύγια νέμοιτο. καὶ εὐθὺς ἐγνωσαν πάντες ὅτ ἐγγὺς που ιστρατοπεδεύετο βασιλεύς· καὶ γὰρ κοπνὸς ἐφαίνετο ἐν κώμαις οὐ πρόσω· Κλέαρχος δὲ ἐπὶ μὲν τοῖς πολεμίους οὐκ ἤγεν· ᾔδει γὰρ καὶ ἀπειρηκότας τοῖς στρατιώτας καὶ ἀσίτους ὄντας· ἤδη καὶ ὀψὲ ἦν·

(*b*) Ταῦτα εἰπὼν ἔδοξε τῷ Κλεάρχῳ ἀληθῆ λέγειν. καὶ εἶπεν, Οὐκοῦν, ἔφη οἵτινες τοιούτων ἡμῖν εἰς φιλίαν ὑπαρχόντων πειρῶνται διαβάλλοντες ποιῆσαι πολεμίους ἡμᾶς ἄξιοί εἰσι τὰ ἔσχατα παθεῖν; Καὶ ἐγὼ μὲν γε ἔφη ὁ Τισσ. φέρνης, εἰ βούλεσθέ μοι οἵ τε στρατηγοὶ σαὶ οἱ λοχαγοὶ ἐλθεῖν ἐν τῷ ἐμφανεῖ, λέξω τοὺς πρὸς ἐμὲ λέγοντας ὡς σὺ ἐμοὶ ἐπιβουλευεις καὶ τῇ σὺν ἐμοὶ στρατιᾷ Ἐγὼ δὲ, ἔφη ὁ Κλέαρχος, ἄξω πάντας, καὶ σοὶ αὖ δηλώσω ὅθεν ἐγὼ περὶ σοῦ ἀκούω. ἐκ τούτων δὴ τῶν λόγων ὁ Τισσαφέρνης φιλοφρονούμενος τότε μὲν μένειν τε αὐτόν ἐκέλευε καὶ συνδειπνον ἐποιήσατο.—Xen. Anab. Bk. II.

(1) Give the mood, tense, verbal root and principal parts of the following verbs: ἐτέτρωτο, καταβάς, παθεῖν, ἐλθεῖν. (2) Explain the case of ἡλίῳ τῶν Ἑλλήνων, τοῦτο (ἐψεύσθησαν), πολεμίους ἐμοὶ.

III. Μετὰ ταῦτα ἀριστήσαντες καὶ διαβάντες τὸν Ζαπάταν πσαμὸν ἐπορεύοντο τεταγμένοι, τὰ ὑποζύγια καὶ τὸν ὄχλον ἐν μέσῳ ἔχοντες. οὐ πολὺ δὲ προεληλυθότων αὐτῶν ἐπιφαίνεται πάλιν ὁ Μιθριδάτης, ἱππέας ἔχων ὡς διακοσίους καὶ τοξότας καὶ σφενδονήτας ὡς τετρακοσίους μάλα ἐλαφρῶς καὶ εὐζώνους. Καὶ προσήει μὲν ὡς φίλος ὢν πρὸς Ἕλληνας, ἐπεὶ δ' ἐγγὺς ἐγένετο, ἐξαπίνης οἱ μὲν αὐτῶν ἐτόξευον καὶ ἱππεῖς καὶ πεξοί, οἱ δ' ἐσφενδόνων καὶ ἐτίτρωσκον. οἱ δὲ ὀπισθοφύλακες τῶν Ἑλλήνων ἔπασχον μὲν κακῶς, ἀντεποίουν δ' οὐδέν· οὔ τε γὰρ Κρῆτες βραχύτερα τῶν Περσῶν ἐτόξευον καὶ ἅμα ψιλοὶ ὄντες εἶσω τῶν ὅπλων κατεκέκλειττο, οἵ τε ἀκοντισταὶ βραχύτερα ἠκόντιζον ἢ ὡς ἐξικνεῖσθαι τῶν σφενδονητῶν. Ἐκ τούτου Ξενοφῶντι ἐδόκει δωκτέον εἶναι. καὶ ἐδίωκον τῶν τε ὁπλιτῶν καὶ τῶν πελταστῶν οἳ ἔτυχον σὺν αὐτῷ ὀπισθοφυλακοῦντες· διώκοντες δὲ οὐδένα κατελάμβανον τῶν πολεμίων.

Xen. Anab. Bk. III.

(1) τεταγμένοι: give the principal parts of this verb. (2) Construction of προεληλυθότων? Principal parts. (3) Derivation of εὐζώνους. (4) Explain the case of βραχύτερα, σφενδονητῶν. (5) δωκτέον: remark on this construction. Give the corresponding construction in Latin.

IV. Ὣς εἰπὼν προΐει, κρατερὸν δ' ἐπὶ μῦθον ἔτελλεν.
Τὼ δ' ἀέκοντε βάτην παρὰ θῖν' ἀλὸς ἀτρυγέτοιο,
Μυρμιδόνων δ' ἐπί τε κλισίας καί νῆας ἰκέσθην.
Τὸν δ' εὗρον παρά τε κλισίῃ καὶ μελαίνῃ
Ἥμενον· οὐδ' ἄρα τώ γε ἰδὼν γήθησεν Ἀχιλλεύς
Τὼ μὲν ταρβήσαντε καὶ αἰδομένω βασιλῆα
Στήτην, οὐδέ τί μὲν προσεφώνεων οὐδ' ἐρέοντο·
Αὐτὰρ ὁ ἔγνω ᾗσιν ἐνὶ φρεσὶ, φώνησέν τε·
"Χαίρετε, κήρυκες, Διὸς ἄγγελοι ἠδὲ καὶ ἀνδρῶν.
Ἄσσον ἴτ'· οὔ τί μοι ὔμμες ἐπαίτιοι, ἀλλ' Ἀγαμέμνων,
Ὅ σφῶι προλΐει Βρισηΐδος εἵνεκα κούρης.
Ἀλλ' ἄγε, διογενὲς Πατρόκλεις, ἔξαγε κούρης.
Καί σφωϊν δὸς ἄγειν. τὼ δ' αὐτὼ μάρτυροι ἔστων
Πρός τε θεῶν μακάρων πρός τε θνητῶν ἀνθρώπων
Καὶ πρὸς τοῦ βασιλῆος ἀπηνέος, εἴ ποτε δ' αὖτε
Χρειὼ ἐμεῖο γένηται ἀεικέα λοιγὸν ἀμῦναι
Τοῖς ἄλλοις.—Hom. Il. Bk. I.

(1) What is the subject of the verb προΐει? the object? (2) Who were the heralds sent to Achilles? (3) For what Attic forms do αἴν, ἐμεῖο, ὔμμες, ᾗσιν, βασιλῆος stand? (4) Scan the first three lines.

LATIN.

MONDAY, SEPT. 14TH :—AFTERNOON, 2 to 5.

Examiner,..... A. J. EATON, Ph.D.

(A) LATIN GRAMMAR.

1. Decline *bellum, puer, caput, pes, corpus;* adjective *acer;* pronoun *is.* Decline together *dies quintus, vir aeger.*

2. Compare the adjectives *altus, pulcher, facilis, magnus;* adverbs *grate, acriter, bene.*

3. (*a*) Inflect *rego* and *amo* in the future indicative of both voices. (*b*) Give the present subjunctive, first person, of *eo, conor, sequor.* (*c*) Inflect in the perfect indicative, active, *habeo;* perfect subjunctive, passive, *rego;* imperative, *prosum.*

4. (*a*) How is the gender of Latin nouns determined? (*b*) State the general rules for the gender of nouns of the second and third declensions.

5. (*a*) How is the agent with passive verbs expressed? (*b*) What case do the following verbs govern: *utor, rego, obliviscor, misereor, interest, potior.* (*c*) Give the main uses of the accusative case in Latin.

6. Translate into Latin:—(*a*) The Gauls are separated from the Aquitani by the Garonne river. (*b*) The Rhine is a very wide and a very deep river. (*c*) By these things they were greatly annoyed. (*d*) When Caesar had set out from Rome, he hastened to Geneva.

(B) CAESAR AND VIRGIL.

[Candidates are requested to translate any *two* of the following extracts and answer the questions printed below them.]

I. Postquam id animum advertit, copias suas Caesar in proximum collem subducit equitatumque, qui sustineret hostium impetum, misit. Ipse interim in colle medio triplicem aciem instruxit legionum quattuor veteranarum; sed in summo iugo duas legiones, quas in Gallia citeriore proxime conscripserat, et omnia auxilia collocari ac totum montem hominibus compleri et interea sarcinas in unum locum conferri et eum ab his, qui in superiore acie constiterant, muniri iussit. Helvetii cum omnibus suis carris secuti impedimenta in unum locum contulerunt; ipsi confertissima acie reiecto nostro equitatu phalange facta sub primam nostram aciem successerunt. Caesar primum suo, deinde omnium ex conspectu remotis equis, ut aequato omnium periculo spem fugae tolleret, cohortatus suos proelium commisit. Milites e loco superiore pilis missis facile hostium phalangem perfregerunt. Ea disiecta gladiis destrictis in eos impetum fecerunt.—CAESAR, B. G. I.

(*a*) Give the rule for the *mood* and *tense* of *sustineret*. (*b*) *in colle medio*: remark on this construction, and give other examples. (*c*) Distinguish between *acies* and *agmen*. (*d*) Explain the grammatical construction of *hominibus, complere, cum omnibus suis, tolleret, ea disiecta*

II. Ac, primo adventu exercitus nostri, crebras ex oppido excursiones faciebant, parvulisque proeliis cum nostris contendebant: postea vallo pedum duodecim in circuitu quindecim milium crebrisque castellis circummuniti, oppido sese continebant. Ubi vineis actis, aggere exstructo, turrim procul constitui viderunt, primum irridere ex muro, atque increpitare vocibus, quod tanta machinatio ab tanto spatio instrueretur; quibusnam manibus aut quibus viribus praesertim homines tantulae staturae—nam plerumque hominibus Gallis prae magnitudine corporum suorum brevitas nostra contemptui est—tanti oneris turrim in muro sese collocare confiderent?—Caesar, B. G. II.

(*a*) Remark on the use of the imperfect in this passage. (*b*) Describe the *vineae* (*c*) *irridere*: how is the infinitive used here? (*d*) Explain the grammatical construction of *instrueretur, tantulae staturae, contemptui*.

III. His constitutis rebus, nactus idoneam ad navigandum tempestatem tertia fere vigilia solvit, equitesque in ulteriorem portum progredi et naves conscendere et se sequi iussit. A quibus cum paullo tardius esset administratum, ipse hora circiter diei quarta cum primis navibus Britanniam attigit, atque ibi in omnibus collibus expositas hostium copias armatas conspexit. Cuius loci haec erat natura, atque ita montibus angustis mare continebatur, uti ex locis superioribus in litus telum adigi posset. Hunc ad egrediendum nequaquam idoneum locum arbitratus, dum reliquae naves eo convenirent, ad horam nonam in ancoris exspectavit.

Interim, legatis tribunisque militum convocatis, et quae ex Voluseno cognosset et quae fieri vellet ostendit, monuitque ut rei militaris ratio, maxime ut maritumae res postularent (ut quae celerem atque instabilem motum haberent), ad nutum et ad tempus omnes res ab iis administrarentur.—Caesar, Bell. Brit.

State clearly the principles of syntax that explain the mood and tense: *esset administratum; posset; convenirent; cognosset; vellet; postularent; administrarentur*.

IV. Unam, quae Lycios fidumque vehebat Oronten,
Ipsius ante oculos ingens a vertice pontus
In puppim ferit; excutitur pronusque magister
Volvitur in caput: ast illam ter fluctus ibidem
Torquet agens circum, et rapidus vorat aequore vertex.
Apparent rari nantes in gurgite vasto,
Arma virum tabulaeque et Troïa gaza per undas.
Iam validam Ilionei navem, iam fortis Achatae,
Et qua vectus Abas, et qua grandaevus Aletes,
Vicit hiems: laxis laterum compagibus omnes
Ac ipiunt inimicum imbrem, rimisque fatiscunt.

Interea magno misceri murmure pontum,
Emissamque hiemem sensit Neptunus, et imis
Stagna refusa vadis, graviter commotus; et alto
Prospiciens, summa placidum caput extulit unda.
At puer Ascanius, cui nunc cognomen Iulo
Additur, Ilus erat, dum res stetit Ilia regno,
Triginta magnos volvendis mensibus orbes
Imperio explebit, regnumque ab sede Lavini
Transferet, et longam multa vi muniet Albam.

VIRGIL, AEN., BK. I.

(*a*) *Vehebat*: give the principal parts and show the force of the imperfect. (*b*) *Virum:* what case? (*c*) Explain the construction *cui nunc cognomen Julo*. (*d*) Scan the first three lines.

V. Tum vero ingeminat clamor, cunctique sequentem
Instigant studiis, resonatque fragoribus aether.
Hi proprium decus et partum indignantur honorem
Ni teneant, vitamque volunt pro laude pacisci;
Hos successus alit: possunt, quia posse videntur.
Et fors aequatis cepissent praemia rostris,
Ni palmas ponto tendens utrasque Cloanthus
Fudissetque preces, divosque in vota vocasset:
"Di, quibus imperium est pelagi, quorum aequora curro,
Vobis laetus ego hoc candentem in litore taurum
Constituam ante aras, voti reus, extaque salsos
Porriciam in fluctus, et vina liquentia fundam."
Dixit, eumque imis sub fluctibus audiit omnis
Nereïdum Phorcique chorus, Panopeaque virgo;
Et pater ipse manu magna Portunus euntem
Impulit. Illa Noto citius volucrique sagitta
Ad terram fugit, et portu se condidit alto.

VIRGIL, AEN., Bk. V.

(*a*) What is the accusative of *aether*? of *pelagus*? (*b*) Decline *Di* in Sing. and Plur. (*c*) Explain mood and tense of *cepissent* and *fudisset*. (*d*) Scan the last two lines.

ARITHMETIC.

TUESDAY, SEPTEMBER 15TH:—MORNING, 9 TO 12.

1. Reduce ·32605 to a vulgar fraction, and reduce the fraction to its lowest terms.

2 Extract the square root of 4503, of ·075 and of ·001.

3. What principal will amount to $1,000 in 3 years at 4 per cent. per annum, (1) interest being simple, (2) compound.

4. If 8 men can do as much work per day as 21 boys, and a certain piece of work can be done by 12 men and 7 boys in $54\frac{1}{4}$ days, how long would it take 5 men and 14 boys to do it?

ALGEBRA.

5. Simplify $\frac{3}{8(1-x)} + \frac{1}{8(1+x)} - \frac{1-x}{4(1+x^2)} - \frac{1+3x^2}{4(1-x^4)}$,

and reduce $\frac{x^2+x-12}{x^3-5x^2+7x-3}$ to its lowest terms.

6. Find the square root of $9x^4 - 12x^3 + 16x^2 - 8x + 4$.

7. Solve the equations

(1) $\frac{6x+13}{15} - \frac{3x+5}{5(x-5)} = \frac{2}{5}x$

(2) $\frac{17}{6x+17} - \frac{10}{3x-10} = \frac{1}{1-2x}$

8. Solve the simultaneous equations

$$\frac{3x-2y}{3x+y} = 4 \ , \ \frac{2x-3y}{x+3y} = -\frac{13}{7}.$$

GEOMETRY.

9. To describe a parallelogram which shall be equal to a given triangle and have an angle equal to a given angle.

10. When the square on one side of a triangle is equal to the squares on the other two sides, prove that the triangle is right-angled.

Show also that the triangle is obtuse-angled if the square on one side is greater than the squares on the other two sides.

11. When a straight line is divided into two equal and also into two unequal parts, the squares on the unequal parts are together double of the square on half the line and of the square on the line between the points of section.

12. The line which is drawn from a point in the circumference of a circle at right angles to the radius passing through that point touches the circle.

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ENGLISH HISTORY AND ESSAY.

WEDNESDAY, SEPTEMBER 16TH:—MORNING, 10.30 to 12.30.

Examiners, ... { CHAS. E. MOYSE, B.A. / C. W. COLBY, M.A., Ph.D.

FIRST YEAR.

Answer any six questions from among the first nine.

1. Write what you know about Alfred the Great as,

a. Warrior;

b. Administrator;

c. Man of letters.

2. *a*. What pretext did William the Conqueror urge to justify his invasion of England?

b. Were the Normans superior as a race to the English? Give reasons for the opinion you hold on this point.

3. *a*. Write what you know of the relations between Henry II. and Becket.

b. Why should the memory of Simon de Montfort be held in reverence

4. *a*. Name, with dates, any three great events of the Hundred Years War.

b. Who was the *Maid of Orleans*, and what part did she play in the Hundred Years War?

5. Explain the term, *Invincible Armada?* For what purpose and by whom was it equipped?

6. *a*. Mention leading features of contrast between Puritans and Cavaliers.

b. What first made John Hampden famous?

7. Who was William of Orange, and how did he come to the English Throne?

8. Mention some events by which England won glory under the administration of William Pitt, Earl of Chatham.

9. Assign events to the following dates, 1066, 1215, 1420, 1588, 1628, 1688, 1815, *or* make a note on each of the following terms:

Ordeal, *Danegeld*, *Domesday Book*, *Mad Parliament*, *Gunpowder Plot*, *Jacobite*, *Corn Laws*.

SECOND YEAR.

Answer 2, 7, 8, 9, 10 and 11.

10. "The talents and even the virtues of her [England's] six first French Kings were a curse to her. The follies and vices of the seventh were her salvation." Justify or explain this statement. Name the seven kings to whom reference is made.

11. Who was Thomas Wentworth, Earl of Stratford? Give a brief outline of his policy, and indicate the result to which it led.

ESSAY FOR FIRST AND SECOND YEARS.

(N.B. The essay is to be written on a separate bundle of paper.)

Write an essay of not less than two pages on any *one* of the following subjects:

(*a*) Your favorite author;
(*b*) The progress of Science;
(*c*) Patriotism.

SECOND YEAR ENTRANCE.

GREEK.

MONDAY, SEPT. 14TH:—MORNING, 9 TO 12.

Examiner,.....A. J. EATON, M.A., PH.D.

(A) 1. Translate: Homer, Iliad, Bk. VI.:

Ὣς ἄρα φωνήσας ἀπέβη κορυθαίολος Ἕκτωρ.
αἶψα δ' ἔπειθ' ἵκανε δόμους εὐναιετάοντας,
οὐδ' εὗρ' Ἀνδρομάχην λευκώλενον ἐν μεγάροισιν,
ἀλλ' ἥγε ξὺν παιδὶ καὶ ἀμφιπόλῳ ἐυπέπλῳ
πύργῳ ἐφεστήκει γοόωσά τε μυρομένη τε.
Ἕκτωρ δ' ὡς οὐκ ἔνδον ἀμύμονα τέτμεν ἀκοιτιν,
ἔστη ἐπ' οὐδὸν ἰών, μετὰ δὲ δμωῆσιν ἔειπεν·
„εἰ δ' ἄγε μοι, δμωαί, νημερτέα μυθήσασθε.
πῇ ἔβη Ἀνδρομάχη λευκώλενος ἐκ μεγάροιο;
ἠέ πῃ ἐς γαλόων ἢ εἰνατέρων ἐυπέπλων,
ἢ ἐς Ἀθηναίης ἐξοίχεται, ἔνθα περ ἄλλαι
Τρωαὶ ἐυπλόκαμοι δεινὴν θεὸν ἱλάσκονται;"
τὸν δ' αὖτ' ὀτρηρὴ ταμίη πρὸς μῦθον ἔειπεν·

Ἕκτορ, ἐπεὶ μάλ' ἄνωγας ἀληθέα μυθήσασθαι,
Οὔτε πῃ ἐς γαλόων οὔτ' εἰνατέρων ἐυπέπλων,
οὔτ' ἐς Ἀθηναίης ἐξοίχεται, ἔνθα περ ἄλλαι
Τρωαὶ ἐυπλόκαμοι δειλὴν θεὸν ἱλάσκονται·"
τὸν δ' αὖτ' ὀτρηρὴ ταμίη πρὸς μῦθον ἔειπεν·
Ἕκτορ, ἐπεὶ μάλ' ἄνωγας ἀληθέα μυθήσασθαι,
Οὔτε πῃ ἐς γαλόων οὔτ' εἰνατέρων ἐυπέπλων,
οὔτ' ἐς Ἀθηναίης ἐξοίχεται, ἔνθα περ ἄλλαι
Τρωαὶ ἐυπλόκαμοι δεινὴν θεὸν ἱλάσκονται,
ἀλλ' ἐπὶ πύργον ἔβη μέγαν Ἰλίου, οὕνεκ' ἄκουσεν
τείρεσθαι Τρῶας, μέγα δὲ κράτος εἶναι Ἀχαιῶν.
ἡ μὲν δὴ πρὸς τεῖχος ἐπειγομένη ἀφικάνει,
μαινομένῃ ἐικυῖα. φέρει δ' ἅμα παῖδα τιθήνη."

[Bk. XXII, vss. 90-97 and 437-448 may be substituted for the above].

2. (*a*) Write out the Attic forms of any four of these words: *μένησι, μίν, πυλάων, ἔειπεν, μεγάροιο, ἐὺ, γοόωσα.* Give the root, tense and formation of any five of the following verbs: *βεβρυκώς, δέδορκεν, πέπυστο, κέκλετο, τέτμεν, ἄνωγας, ἀπέβη.*

3. Give the meaning and derivation: *ἱππόδαμος, τρίποδα, γλαυκῶπις, μενεπτόλεμος, τηλεκλειτοί, ἄμβατος, ἄσβεστον.*

4. Scan the first four lines.

5. (*a*) In the Homeric dialect what relation do—*θι*,—*θεν*,—*θε* and —*φι* (*ν*) mark as special case-endings? (*b*) What is the common ending of the dat. plur. of the first declension, in Homer?

(B) 1. Translate: Xenophon, Cyropaedeia, Bk. I. :—

Δειπνῶν δὲ ὁ Ἀστυάγης σὺν τῇ θυγατρὶ καὶ τῷ Κύρῳ, βουλόμενος τὸν παῖδα ὡς ἥδιστα δειπνεῖν, ἵνα ἧττον τὰ οἰκαδε πάθοι, προσήγαγεν αὐτῷ καὶ παροψίδας καὶ παντοδαπὰ ἐμβάμματα καὶ βρώματα. τὸν δὲ Κῦρον ἔφασαν λέγειν, Ὦ πάππε, ὅσα πράγματα ἔχεις ἐν τῷ δείπνῳ, εἰ ἀνάγκη σοι ἐπὶ πάντα τὰ λεκάνια τοῦτα διατείνειν τὰς χεῖρας καὶ ἀπογεύεσθαι τούτων τῶν παντοδαπῶν βρωμάτων. Τί δέ, φάναι ὁ Ἀστυάγης, οὐ γὰρ πολὺ σοι δοκεῖ εἶναι κάλλιον τόδε τὸ δεῖπνον τοῦ ἐν Πέρσαις; ὁ δὲ Κῦρος πρὸς ταῦτα ἀποκρίνασθαι λέγεται, Οὔκ, ὦ πάππε, ἀλλὰ πολὺ ἁπλουστέρα καὶ εὐθυτέρα παρ' ἡμῖν ἡ ὁδός ἐστιν ἐπὶ τὸ ἐμπλησθῆναι ἢ παρ' ὑμῖν· παρ' ἡμῖν μὲν γὰρ ἄρτος καὶ κρέα εἰς τοῦτο ἀπάγει, ὑμεῖς δὲ εἰς μὲν τὸ αὐτὸ ἡμῖν σπεύδετε, πολλοὺς δέ τινας ἑλιγμοὺς ἄνω καὶ κατω πλανώμενοι μόλις ἀφικνεῖσθε ὅποι ἡμεῖς πάλαι ἥκομεν.

Τοιαῦτα μὲν δὴ πολλὰ ἐλάλει ὁ Κῦρος· τέλος δὲ ἡ μὲν μήτηρ ἀπῆλθε, Κῦρος δὲ κατέμενε καὶ αὐτοῦ ἐτρέφετο. καί ταχὺ μὲν τοῖς ἡλικιώταις συνεκέκραστο ὥστε οἰκείως δια..εῖσθαι, ταχὺ δὲ τοὺς πατέρας αὐτῶν ἀνήρτητο, προσιὼν καὶ ἐνδηλος ὢν ὅτι ἡσπάζετο αὐτῶν τοὺς υἱεῖς, ὥστε εἴ τι τοῦ βασιλέως δέοιντο, τοὺς παῖδας ἐκέλευον τοῦ Κύρου δεῖσθαι διαπράξασθαι σφίσιν. ὁ δὲ Κῶρος, εἰ δέοιντο τι αὐτοῦ οἱ παῖδες, διὰ τὴν φιλανθρωπίαν καὶ φιλοτιμίαν περὶ παντὸς ἐποιεῖτο διαπράττεσθαι.

2. (*a*) *ποθοίη*: show where this form is made, and account for the optative. Distinguish in meaning between this verb and *ἐπιθυμέω*. (*b*) Give the derivation of *ἐμβαμματο*, *φιλανθρωπίαν*, *φιλοτιμίαν*, accounting for changes of stems. (*c*) *τὰς χεῖρας*: remark on this use of the article. (*d*) *τούτων βρωμάτων*: give the rule for the genitive.

3. (*a*) *φάναι*: why infinitive? (*b*) *ἐτρε φετο*: principal parts. (*c*) *συνεκέκρατο, ἀνήοτητο*: what tense, and from what present indicatives? (*d*) *ὥστε εἴ τι τοῦ βασιλέως δέοιντο*: explain the grammatical construction of each word.

LATIN.

MONDAY, SEPT. 14TH:—AFTERNOON, 2 to 5.

Examiner,.....A. J. EATON, PH.D.

(A) VIRGIL, AENEID, BK. VI.

1. Translate:

Hinc *via*, Tartarei quae fert Acherontis ad undas:
Turbidus hic coeno vastaque voragine gurges
Aestuat, atque omnem *Cocyto* eructat arenam.
Portitor has horrendus aquas et flumina servat
Terribili *squalore* Charon; cui plurima mento
Canities inculta iacet; stant lumina flamma;
Sordidus ex umeris nodo dependet amictus.
Ipse ratem conto subigit *velis* que ministrat,
Et ferruginea subvectat corpora cymba
Iam senior; sed cruda *deo* viridisque senectus.
Huc omnis turba ad ripas effusa ruebat,
Matres atque viri, defunctaque corpora vita
Magnanimum heroum, pueri innuptaeque puellae,
Impositique rogis iuvenes ante ora parentum:
Quam multa in silvis auctumni frigore primo
Lapsa cadunt folia; aut ad terram gurgite ab alto
Quam multae glomerantur aves, ubi frigidus annus
Trans pontum fugat et terris inmittet apricis.—295-312.

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2. (*a*) Explain the grammatical construction of italicized words in the above extracts. (*b*) Decline *Aeneas*, *nemus*. Principal parts of *fert*, *iacet*, *cadunt*, *refugit*, *funduntur* (marking the quantity of each vowel). (*c*) Remark on the metre of the Aeneid, explaining the terms, *ictus*, *arsis*, *thesis*, *caesura of the foot*, *caesura of the verse*, *feminine caesura*. (*d*) Scan lines 703, 307, 706, marking the position of the caesura. Mark the quantity of each syllable of 306, giving reasons for the length, where you can.

3. Remark on the following constructions: (1) hic *labor* ille *domus*. (2) Tu quoque magnam partem apere in tanto, *sineret* dolor, Icare, *haberes*. (3) ipsa *canas* oro. (4) quid *memorem* Alciden? (5) facilis descensus *Averno*. (6) teque *aspectu* ne subtrahe nostro. (7) *hac* iter *Elysium* nobis. (8) demens, qui nimbos—*simularet*. (9) melle soporatam et medicatis frugibus offam. (10) hac Troiana tenus *fuerit* fortuna *secuta*.

(B) CICERO.

[Candidates may choose between I. and II.]

I.

(*a*) Quaeret quispiam: quid? Illi ipsi summi viri, quorum virtutes litteris proditae sunt, istane doctrina, quam tu effers *laudibus*, eruditi fuerunt? Difficile est hoc de omnibus confirmare, sed tamen est certe quod *respondeam*. Ego multos homines *excellenti animo* ac virtute fuisse et sine doctrina naturae ipsius habitu prope divino per se ipsos et moderatos et graves exslitisse fateor: etiam illud adiungo, saepius ad laudem atque virtutem naturam sine doctrina quam sine natura valuisse doctrinam. Atque *idem* ego contendo, cum ad naturam eximiam atque illustrem accesserit ratio quaedam conformatioque doctrinae, tum illud *nescio quid* praeclarum ac singulare solere exsistere. PRO ARCHIA, §7.

(*b*) Min autem recordanti Ser. Sulpicii multos in nostra familiaritate *sermones* gratior illi videtur, si qui est sensus in morte, aenea statua futura et ea pedestris quam inaurata equestris, qualis L. Sullae primum statuta est. Mirifice enim Servius maiorem continentiam diligebat, huius saeculi insolentiam vituperabat. Ut igitur si ipsum *consulam* quid *velit*, sic pedestrem ex aere statuem tanquam ex eius auctoritate et voluntate decerno: quae quidem magnum civium dolorem et desiderium honore monimenti minuet et leniet. PHIL. IX 6.

(1) Explain the grammatical construction of italicized words. (2) Classify conditional sentences, and show how each is expressed in Latin.

II.

(*a*) Ac si quis est talis, *qualis* esse *omnis* oportebat, qui in hoc ipso, in quo exsultat et triumphat oratio mea, me vehementer *accuset*, quod tam capitalem hostem non *comprehenderim* potius quam emiserim, non est ista mea culpa sed temporum. Interfectum esse L. Catilinam et gravissimo supplicio adfectum iam pridem oportebat, idque a me et mos maiorum et

huius imperi severitas et res publica postulabat. Sed quam multos fuisse putatis qui quae ego *deferrem* non *crederent?*

Cum ille, homo audacissimus, conscientia convictus, primo reticuisset, patefeci cetera: quid ea nocte *egisset*, quid in proximam constituisset, quem ad modum esset *ei* ratio totius belli descripta, edocui Cum haesitaret cum teneretur, quaesivi quid dubitaret *proficisci* eo, quo iam pridem, *pararet*, cum arma, cum securis, cum fascis, cum aquilam illam argenteam cui etiam sacrarium *domi suae* fecerat, scirem esse praemissam.—In Catilinam, II. 3 and 13.

(*b*) Quamquam haec omnia, Quirites, ita sunt a me administrata, ut deorum immortalium nutu atque consilio et gesta et provisa esse *videantur;* idque cum coniectura consequi possumus, quod vix videtur humani *consili* tantarum rerum gubernatio esse potuisse; tum vero ita praesentes his temporibus opem et auxilium nobis tulerunt ut eos paene oculis videre possemus. Nam ut illa *omittam*,—visas nocturno tempore ab occidente faces, ardoremque caeli, ut fulminum iactus, ut terrae motus relinquam, ut omittam cetera, quae tam multa nobis consulibus facta sunt, ut haec, quae nunc fiunt canere di immortales viderentur,—hoc certe, quod sum dicturus, neque praetermittendum neque reliquendum est.

In Catilinam, III, 18.

(*c*) Quam ob rem, sive hoc statueritis, dederitis mihi comitem ad contionem populo carum atque iucundum: sive Silani sententiam sequi malueritis, facile me atque vos crudelitatis vituperatione exsolveritis, atque obtinebo eam multo teniorem fuisse. Quamquam, patres conscripti, quae potest esse in tanti sceleris immanitate punienda crudelitas? Ego enim de meo sensu iudico. Nam ita mihi *salva* re publica vobiscum perfrui liceat, ut ego, quod in hac causa vehementior sum, non atrocitate animi moveor—quis est enim me mitior?—sed singulari quadam humanitate et misericordia. Videor enim mihi videre hanc urbem, lucem orbis terrarum atque arcem omnium gentium, subito uno incendio *concidentem*. Cerno animo sepulta in patria miseros atque in sepultos acervos civium. Versatur mihi ante oculos aspectus Cethegi, et furor in vestra caede bacchantis. In Catilinam, IV, 11.

(1) Explain grammatically the words in Italics. (2) Remark on the uses of the Imperfect in the first extract. (3) Comment on the meaning of the following words: *securis, fasces, equilam argenteam, sacrarium, Quirites.*

FIRST YEAR HIGHER ENTRANCE AND EXHIBITIONS.

LATIN.

Monday, Sept. 14th:—Afternoon, 2 to 5.

Examiner, ... A. J. Eaton, M.A., Ph. D.

1. Translate:

(*a*) Si te parentes timerent atque odissent tui neque eos ulla ratione placare posses, ut opinor, ab eorum oculis aliquo concederes: nunc te

patria, quae communis est parens omnium nostrum, odit ac metuit et iam diu te nihil iudicat nisi de parricido suo cogitare: huius tu neque auctoritatem verebere nec iudicium sequere nec vim pertimesces? Quae tecum, Catilina, sic agit et quodam modo tacita loquitur: Nullum iam aliquot annis facinus exstitit nisi per te, nullum flagitium sine te: tibi uni multorum civium neces, tibi vexatio direptioque sociorum impunita fuit ac libera: tu non solum ad negligendas leges et quaestiones, verum etiam ad evertendas perfringendasque valuisti.

(*b*) Ibis tandem aliquando, quo te iampridem tua ista cupiditas effrenata ac furiosa rapiebat. Neque enim tibi haec res affert dolorem, sed quamdam incredibilem voluptatem. Ad hanc te amentiam natura peperit, voluntas exercuit, fortuna servavit. Numquam tu non modo otium, sed ne bellum quidem, nisi nefarium concupisti. Nactus es ex perditis atque ab omni non modo fortuna, verum etiam spe derelictis conflatam improborum manum. Hic tu qua laetitia perfruere? quibus gaudiis exsultabis? quanta in voluptate bacchabere, cum in tanto numero tuorum neque audies virum bonum quemquam, neque videbis? Ad huius vitae studium meditati illi sunt, qui feruntur, labores tui: iacere humi non modo ad obsidendum stuprum, verum etiam ad facinus obeundum: vigilare non solum insidiantem somno maritorum, verum etiam bonis otiosorum.

CICERO, IN CATILINAM, I.

2. Write full explanations of the following grammatical constructions: (*a*) *timerent, odissent, concederes, rapiebat* (mood and tense); (*b*) *quodam modo, tacita, annis, laetitia, gaudiis* (case); (*c*) *ad negligendas leges;* (*d*) *iacere humi.*

3. (*a*) Give the principal parts of *affert, peperit, nactus es, iacere.* (*b*) Decline together *quamdam incredibilem voluptatem.* (*c*) Write short explanatory notes on *Palatium, pontifex maximus, tribunus plebis, Praeneste, Manliana castra, Jupiter Stator, Forum Aurelium.*

4. Translate:

Obstupuit primo *aspectu* Sidonia Dido,
Casu deinde viri tanto; et sic ore locuta est:
"Quis te, nate *dea*, per tanta pericula casus
Insequitur? quae vis immanibus applicat oris?
Tune ille Aeneas, quem Dardanio Anchisae
Alma Venus Phrygii genuit Simoëntis ad undam?
Atque equidem Teucrum memini *Sidona* venire,
Finibus expulsum patriis, nova regna petentem
Auxilio Beli: genitor tum Belus opimam
Vastabat Cyprum, et victor ditione tenebat:
Tempore iam ex illo casus mihi cognitus urbis
Troianae, nomenque tuum, regesque Pelasgi.

Ipse hostis Teucros insigni laude ferebat,
Seque ortum antiqua Teucrorum ab stirpe volebat.
Quare agite, o tectis, iuvenes, succedite *nostris*.
Me quoque per multos similis fortuna labores
Iactatam hac demum voluit consistere terra.
Non ignara *mali* miseris succurrere disco."

VIRGIL, AEN. I., 613-630.

5. Explain the following epithets: *Sidonia* Dido, *Dardanio* Anchisae, *Phrygii* Simoentis, *cana* Fides, *Cerealia* arma, *Mavortia* moenia.

6. (*a*) State principles of syntax that explain the construction of italicized words in above extract. (*b*) Derive *aspectu, nomen, alma, ignara* (*c*) Write out the first two lines, dividing them into feet, marking the quantity *beneath* each syllable, and the principal Caesura of each verse.

7. Translate, Caesar, B.G., (*a*) Bk. I, Chap. 24; (*b*) Bk. II, Chap. 30.

8. (*a*) *Animum advertit:* how is this phrase usually written? Explain the construction. (*b*) *Sustineret :* explain mood and tense. (*c*) Remark on the meaning of such phrases as *in colle medio, in sumno iugo.* (*d*) Distinguish between *sarcinas* and *impedimenta ; acies* and *agmen.* (*e*) *ab tanto spatio :* explain this ablative. How is *ab* here used ? Cite a similar use in Caesar. (*f*) Give an example of the Dative of Service and Genitive of Quality, from the last extract.

9. Write a note on any *one* of the following topics: (*a*) The Roman Line of Battle; (*b*) The Roman Legion; (*c*) The Roman Cavalry.

GREEK.

MONDAY, SEPT. 14TH:—MORNING, 9 TO 12.

Examiner, ... A. J. EATON, PH.D.

1. Translate, Xen. Anab. I. III. 8-9; and I. IX. 24-26.

2. Explain fully the following grammatical constructions: (*a*) *τούτοις*: (*b*) *ὡς καταστησομένων τούτων*, (*c*) *τὰ μὲν Κύρου*, (*d*) *τὸ μὲν τὰ μεγάλα νικᾶν*, (*e*) *ὁπότε λάβοι*, (*f*) *πολλοῦ χρόνον*, (*g*) *τούτων*.

3. Translate:

Ὣς εἰπὼν ὤτρυνε πάρος μεμανῖαν Ἀθήνην,
Βῆ δὲ κατ' Οὐλύμποιο καρήνων ἀΐξασα.
Οἷον δ' ἀστέρα ἧκε Κρόνου παῖς ἀγκυλομήτεω,
Ἣ ναύτῃσι τέρας ἠὲ στρατῷ εἰρέϊ λαῶν,
Λαμπρόν· τοῦ δέ τε πολλοὶ ἀπὸ σπινθῆρες ἵενται·

Τῷ ἴκνυ' ἤϊξεν ἐπὶ χθόνα Παλλὰς Ἀθήνη,
Κὰδ δ' ἔθορ' ἐς μέσσον· θάμβος δ' ἔχεν εἰσαρόωντας
Τρῶάς θ' ἱπποδάμους καὶ ἐϋκνήμιδας Ἀχαιούς.
Ὧδέ τις εἶπεσκεν ἰδὼν ἐς πλησίον ἄλλον.
"Ἦ ῥ' αὖτις πόλεμός τε κακὸς καὶ φύλοπις αἰνὴ
Ἔσσεται, ἢ φιλότητα μετ' ἀμφοτέροισι τίθησιν
Ζεὺς, ὅς τ' ἀνθρώπων ταμίης πολέμοιο τέτυκται."

Homer, Il. IV. 73-84.

Ἔνθα κεν οὐκέτι ἔργον ἀνὴρ ὀνόσαιτο μετελθὼν,
Ὅς τις ἔτ' ἀβλητος καὶ ἀνούτατος ὀξέϊ χαλκῷ
Δινείοι κατὰ μέσσον, ἄγοι δέ ἑ Παλλὰς Ἀθήνη
Χειρὸς ἑλοῦσα, αὐτὰρ βελέων ἀπερύκοι ἐρωήν·
Ἡολλοὶ γὰρ Τρώων καὶ Ἀχαιῶν ἤματι κείνῳ
Πρηνέες ἐν κονιῃσι παρ' ἀλλήλοισι τέταντο.

Homer, Il. IV. 539-544.

4. (*a*) Explain the form of εἶπεσκεν, κάδ, ἔχεν, τέταντο. (*b*) Account for the use of the optatives in the last extract. (*c*) Scan lines 74, 75, 76 and 542, remarking on any peculiarities.

5. Give the meaning and derivation of παραβλήδην, φιλομμειδής (account for the first μ), νεφεληγερέτα, ἑκκαιδεκάδωρος, κελαινέφες, πολυδίψιον, πρόμαχος, μελιήδης.

6. Give briefly the events narrated in the first four books of the Iliad.

7. Translate:—

Τούτων, ὦ ἄνδρες Ἀθηναῖοι, τῶν ἀνεγνωσμένων ἀληθῆ μέν ἐστι τὰ πολλὰ, ὡς οὐκ ἔδει, οὐ μὴν ἀλλ' ἴσως οὐχ ἡδέα ἀκούειν. ἀλλ' εἰ μὲν, ὅσα ἂν τις ὑπερβῇ τῷ λόγῳ, ἵνα μὴ λυπήσῃ, καὶ τὰ πράγματα ὑπερβήσεται, δεῖ πρὸς ἡδονὴν δημηγορεῖν· εἰ δ' ἡ τῶν λόγων χάρις, ἂν ἧ μὴ προσήκουσα, ἔργῳ ζημία γίγνεται, αἰσχρόν ἐστι φενακίζειν ἑαυτοὺς, καὶ ἅπαντ' ἀναβαλλομένους ἂν ἧ δυσχερῆ πάντων ὑστερεῖν τῶν ἔργων, καὶ μηδὲ τοῦτο δύνασθαι μαθεῖν, ὅτι δεῖ τοὺς ὀρθῶς πολέμῳ χρωμένους οὐκ ἀκολουθεῖν τοῖς πράγμασιν, ἀλλ' αὐτοὺς ἔμπροσθεν εἶναι τῶν πραγμάτων, καὶ τὸν αὐτὸν τρόπον ὥσπερ τῶν στρατευμάτων ἀξιώσειέ τις ἂν τὸν στρατηγὸν ἡγεῖσθαι, οὕτω καὶ τῶν πραγμάτων τοὺς βουλευομένους, ἵν' ἃ ἂν ἐκείνοις δοκῇ, ταῦτο πράττηται καὶ μὴ τὰ συμβάντα ἀναγκάζωνται διώκειν. Demosthenes, Phil. I., §§ 38-39.

8. (*a*) To what does τούτων refer? What was the import of the letter which Demosthenes caused to be read? (*b*) Explain the constructions ὅσα ἂν ὑπερβῇ, and ἵνα μὴ λυπήσῃ. (*c*) Account for the form ἂν, and its use in this connection.

9. Translate :—

Εὑρίσκει γὰρ, οἶμαι, καὶ ἀκούει τοὺς μὲν ὑμετέρους προγόνους, ἐξὸν αὐτοῖς τῶν λοιπῶν ἀρχειν Ἑλλήνων ὥστ' αὐτοὺς ὑπακούειν βασιλεῖ, οὐ μόνον οὐκ ἀνασχομένους τὸν λόγου τοῦτον, ἡνίκ' ἦλθει Ἀλέξανδρος ὁ τούτων πρόγονος περὶ τούτων κῆρυξ, ἀλλὰ καὶ τὴν χώραν ἐκλιπεῖν προελομένους καὶ παθεῖν ὁτιοῦν ὑπομείναντας, καὶ μετὰ ταῦτα πράξαντας ταῦθ' ἃ πάντες μὲν ἀει γλίχονται λέγειν, ἀξίως δ' οὐδεὶς εἰπεῖν δεδύνηται, διόπερ κἀγὼ παραλείψω δικαίως (ἔσιι γὰρ μείζω τἀκείνων ἐργα ἢ ὡς τῳ̃ λόγῳ τις ἂν εἰποι), τοὺς Θηβαίων καὶ Ἀργείων προγόνους τοὺς μὲν συστρατεύσαντας τῷ̃ βαρβάρῳ, τοὺς δ' οὐκ ἐναντιωθέντας. Demosthenes, Phil. II., § 11.

10. (*a*) What construction usually follows the verbs *εὑρίσκω* and *ἀκούω*? (*b*) Explain the case of the following words: *ἐζόν*, *Ἑλλήνων*, *βασιλεῖ*, *κῆρυξ*, *προγόνους*. (c) What kind of a clause does *ὥστε* with the infinitive commonly express? What is its force here? What is the Latin usage corresponding to these two constructions with *ὥστε*?

11. (*a*) How is this last extract connected in line of thought with the context? (*b*) *Ἀλέξανδρος ὁ τούτων πρόγονες*: give the circumstances here alluded to. (*c*) *συστρατεύσαντας τῳ̃ βαρβάρῳ*: relate what you know about the facts to which reference is here made.

GRAMMAR AND COMPOSITION.

THURSDAY, SEPT. 17TH :—AFTERNOON, 2 TO 5.

Examiner, ...A. J. EATON, PH.D.

1. Decline (giving the stem of each, and carefully marking the accent in Greek and the vowel quantity in Latin): *πολίτης*, *ὄρνις*, *ἐλέφας*, *καλός*, *ἡδύς*, *anima*, *iudex*, *apis*, *domus*, *respublica*, *par*, *felix*.

2. Give the Gen. Sing. of *ἐγω*, *τίς*, *ὅστις*, *os*, *vis*, *ordo*, *senex*; Voc. Sing. of *λόγος*, *δῶρον*, *νοῦς*, *λεῶν*, *ἐλπίς*, *πατήρ*, *deus*, *Anchises*, *meus*, *genius*.

3. Give the comparatives and superlatives of *ἀγαθός* and *κακός*. Form and compare adverbs from *carus*, *miser*, *levis*, *audax*.

4. (*a*) Name the *primary* and *secondary* tenses. (*b*) Give the *tense stems* of *λύω* and *moneo*. (*c*) Write down the principal parts of *λείπω*, *ἄγω*, *ἀκούω*, *venio*, *pario*, *pareo*.

5. Inflect the pres. and imperf. indic. act. of *καλέω*, *fero*; the perf. subj. of *possum*; the 2 aor. and 2 fut. pass. of *στέλλω*.

6. What cases follow *ἀκούω, ἡγέομαι, ἥδομαι, egeo, parco, recordor, credo*?

7. Give the various uses of the Accusative case in Greek and Latin, and illustrate by examples where you can.

8. Write down the following sentence, and mark all long vowels:
Caesari cum id nuntiatum esset, eos per provinciam nostram iter facere conari, maturat ab urbe proficisci et quam maximis potest itineribus in Galliam ulteriorem contendit et ad Genavam pervenit.

9. Translate into Greek: (1) I have often admired the virtue of Socrates. (2) The people there are astonished at the madness of those with the King. (3) For it is not lawful to speak ill of the gods. (4) If you do this you will conquer your enemies. (5) Whoever is caught shall be punished.

10. Translate into Latin (A) *or* (B), and (C):
(A) (1) It is the duty of all men to obey the laws and to be mindful of the benefits they receive from the commonwealth. (2) Brutus pretended to be mad in order the more easily to deceive his enemies and to serve his country. (3) He said that he had slept a good sleep, but had dreamed a very strange dream. (4) He was a man of a good disposition, and one whom no man excelled in valour and love to his country. (5) He was born at Rome, educated at Athens, married a wife at Corinth, and died at Carthage. (6) Herodotus relates that Thales of Miletus predicted to the Ionians an eclipse of the sun, and that it took place at the appointed time.
(B)(1) Having heard this, he halted for three hours, but at mid day began his march again. (2) He foretold the ruin of his country. (3) The Roman people and Senate decreed many honours to you and to your father. (4) He said that he had neither broken his word nor deceived the nation. (5) The soldiers having gathered together in crowds listened to his speech in silence. (6) Procrastination, which in all things was dangerous, was, he said, fatal in war. (7) You and I happened that day to be in the country: the consequence of this was that we have been the last to hear of this disaster. (8) Was it by force of arms, or by judgment, courage, and good sense, that Rome was able to dictate terms to the rest of the world?

(C) A little before light on the seventh of November, two Roman knights went to Cicero's house for the purpose of killing him in his bed. For that very night, in an assembly at Lacca's, on Catiline's saying that he could not yet go out of the city because Cicero was living, they had promised to relieve him of that anxiety. But the consul had found out their intentions, and predicted to many most eminent men that they would come at that very time. Afterwards, in the most august assembly of the world, he consulted those same men, whom he ought to have put to death with the sword, about the state of public affairs.

GEOMETRY.

TUESDAY, SEPTEMBER 15TH :—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, LL D.

1. If from a point O in a right line AB a right line OC be drawn, making with AB the angles AOC and COB; prove that if right lines be drawn from O bisecting these angles they shall be at right angles to one another.

2. Prove that the square on any line is four times the square on half the line.

3. Prove a proposition in the second Book which may be enunciated thus :—The sum of the squares of any two unequal lines exceeds the square on the difference of the lines by twice the rectangle under the lines.

4. Prove that at any point of the circumference of a circle the only tangent which can be drawn is the right line which is perpendicular to the diameter passing through the point.

5. If two chords of a circle be parallel they intercept equal arcs.

6. If from a point outside a circle, a tangent and a secant be drawn, the rectangle under the whole secant and the external segment is equal to the square of the tangent.

*7. If the vertical angle of a triangle be bisected, the bisecting line will cut the base into segments which are proportional to the conterminous sides.

*8. The areas of similar triangles are to one another in the duplicate ratio of their homologous sides.

*9. Describe a rectilineal figure which shall be equal to one and similar to another rectilineal figure.

ALGEBRA.

TUESDAY, SEPTEMBER 15TH :—AFTERNOON, 2 TO 5.

Examiner,..... ALEXANDER JOHNSON, LL.D.

1. Find the sum of a series of n terms in Arithmetical Progression of which the first term is a and the common difference d.

(a) Find the sum of 20 consecutive odd numbers, of which the least is 25.

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* *Extra questions.*

2. Insert two geometric means between 1 and 8.

3. Define a series of terms in Harmonical Progression, and prove that their reciprocals are in arithmetical progression.

(*a*) The second term of an harmonical progression is 2 and the fourth term is 6; find the series.

4. Solve the equations:—

(*a*) $\frac{x+3}{5} - \frac{6-x}{10} = x\,\frac{-7}{10}$:

(*b*) $\frac{x+y}{a+b} + \frac{x-y}{a-b} = 2 \;:\; ax+by = a^2+b^2$

(*c*) $\frac{x+1}{x-1} + \frac{x+2}{x-2} = 2\left(\frac{x+3}{x-3}\right)$

(*d*) $\frac{x+a}{x-b} + \frac{x+b}{x-a} = 2.$

5. Find the number which exceeds its square root by 156.

6. Find two fractions whose sum is $\frac{5}{6}$, and whose difference is equal to their product.

7. Find the highest common factor (*i.e.* greatest common measure) of $16x^4 + 4x^2 + 1$ and $8x^4 - 16x + x - 2$.

8. Find the square root of .000256.

9. Prove that the result of dividing any number by 750 may be found by pointing off three decimal places in the given number and adding to the number so obtained $\frac{1}{3}$ of itself.

10. Find the interest on \$5555.55 for 5 months, at 5 per cent per annum.

11. Reduce the circulating decimal $7.\dot{3}\dot{6}$ to a vulgar fraction.

FRENCH.

SEPTEMBER 17TH:—MORNING, 9 TO 12.

Examiner,..... P. J. DAREY, LL.D.

Translate into English,

1. Il faut, (*a*) autant qu'on peut obliger tout le monde; On a souvent besoin d'un plus petit que soi. (*b*) De cette vérité deux fables feront foi.

Tant la chose en preuves abonde.
Entre les pattes d'un lion
Un rat sortit de terre assez à l'etourdie,
Le roi des animaux, en cette occasion,
Montra ce qu'il était, (*c*) et lui donna la vie.

Ce bienfait ne fut pas perdu.
Quelqu'un aurait-il jamais cru (*d*)
Qu'un lion d'un rat eût affaire (*e*)
Cependent il advint (*f*) qu'au sortir des forêts
Ce lion fut pris dans des rêts
Dont ses rugissements ne le purent (*g*) défaire
Sire Rat accourut, et fit tant par ses dents
Qu'une maille rompue emporta tout l'ouvrage
Patience et longueur de temps
Font plus que force ni que rage.

LAFONTAINE, *L. II., Fable XII.*

II. (*a*) What sort of a verb is *faut?* Conjugate the subjunctive mood of that verb.

(*b*) Parse *soi.*

(*c*) Explain *montra ce qu'il était.*

(*d*) What would be the meaning of crû (with an accent)?

(*e*) Explain *eût affaire.*

(*f*) What is the modern form for *advint*?

(*g*) Write one person of all the simple tenses of *parent.*

III. Describe the character of Mr. and Mme. Jourdain.

(For exhibition only).

IV. Give a résumé of the play : *Mlle de la Seiglière.*

V. Translate : Courir un cerf. S'en prendre à quelqu'un. Vous avez bonne grâce. Je veux en avoir le cœur net. Nous en a rabattu les oreilles. Rendre son arrêt. Je ne sache pas. S'en rapporter à. Etre en mesure de. Avoir raison de quelqu'un.

VI. Translate into French :

My dear Sir,

I have the honor to acknowledge the receipt of your letter of the 12th instant. The news you tell me rejoiced me a great deal. I hope you will enjoy a good health and be very successful in your new undertaking. Please remember me kindly at home, and believe me,

Very truly yours,

JOHN S.

ENGLISH LITERATURE.

SHAKSPERE: *Coriolanus.*

WEDNESDAY, SEPT. 16TH:—AFTERNOON, 2 TO 5.

Examiner, ... CHAS. E. MOYSE, B.A.

1. State briefly what you think are the most prominent features in the character of Coriolanus, Menenius Agrippa, the Tribunes, Volumnia.

2. Write the meaning (and nothing else) of the following words:—nerves, bale, quarry, vaward, lockram, flouted, nicely-gawded, wot, murrain, moe, kam, fosset-seller, God-den, coign, bolted, end (vb.), malkin, potch, doit. Refer any five to their places in the play.

3. Write an explanatory note on (*a*) the repulse of Tarquin, (*b*) the rock Tarpeian, (*c*) the Triton of the minnows, (*d*) the Capitol, (*e*) Hydra, (*f*) you would be another Penelope, (*g*) in anger, Juno-like.

4. Notice peculiarities of syntax in the following extracts:

(*a*) It (the belly) did remain
I' the midst o' the body, idle and inactive
.....where the other instruments
Did see and hear.

(*b*) He godded me.

(*c*) I could wish me only he.

(*d*) Of any fear
Lesser his person than an ill report.

(*e*) To take in many towns ere almost Rome
Should know we were afoot.

(*f*) Methinks I hear hither your husband's drum.

(*g*) As if that whatsoever god who leads him,
Were slily crept—

(*h*) If he did not care whether he had their love or no, he waved indifferently 'twixt doing them neither good nor harm.

(*i*) What should the people do with these tribunes?

(*j*) When one but of my ordinance stood up
To speak of peace or war.

5. Give from Coriolanus one example of each of the following features of Elizaabethan syntax, and refer it to its place in the play:

(*a*) The personal relative of an impersonal antecedent.

(*b*) The transposition of the unemphatic possessive adjective pronoun

(*c*) The omission of the definite article in phrases which require it now.

(*d*) *Us* for *we*.

(*e*) The omission of the relative pronoun.

(*f*) The use of the form of the past tense for the past participle.

6. What do you gather from the play regarding the social condition of the Plebeians? Make references or quotations in illustration of your statements.

7. State as accurately as you can the situation of definite places in which Coriolanus acts, and say briefly what he does in each.

8. Use the play in illustration of (*a*) Rhetorical appeal, (*b*) Irony, (*c*) Humour.

FACULTIES OF ARTS AND APPLIED SCIENCE.

ENGLISH GRAMMAR.

WEDNESDAY, SEPT. 16TH, MORNING, { 9 TO 10.30 MATN. / 9 TO 11.30 EXHIBS.

Examiners,..... { CHAS. E. MOYSE, B.A. / P. T. LAFLEUR, M.A.

(N.B.—Candidates for admission are responsible for the first six questions: —Candidates for Exhibitions for the whole paper.)

1. Write the rules for the formation of the plural of nouns, and give two examples for each rule.

2. Classify adjectives, and give an example for class.

3. Explain and illustrate the difference between strong and weak verbs, and give reasons for the use of these designating terms.

4. Give the principal parts of:—bear, sing, weave, flee, fly, shoe, rive, bid, singe, dye, lie, abide.

5. Explain and illustrate the various meanings and uses of:—then, when, as, since, like.

6. Analyse fully and minutely:—

(*a*) To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears.

(*b*) There is no law to judge the lawless, or canon by which a dream may be criticised.

(*c*) The leaving a neighborhood in which we had enjoyed so many hours of tranquility was not without a tear, which scarce fortitude itself could suppress.

7. Explain carefully the origin and true function of the preposition in English.

8. Give, with examples, the principal rules for the employment of the subjunctive mood.

SECOND YEAR EXHIBITIONS.

GREEK.

MONDAY, SEPT. 14TH:—MORNING, 9 TO 12.

Examiner, ... A. J. EATON, PH.D.

1. Translate: Herodotus, Bk. III., chap. 35.

2. (*a*) Discuss the constructions *εἰ....τυχοίμι....φανέονται*; and *ἢν ἁμάρτω....φάναι*. Where is *φάναι* made, and how is it used here? (*b*) *εὑρεθῆναι*: how do you account for the accusative and infinitive construction in an adverbial clause? (*c*) *γελασαντα*: note the force of the tense, and express it in translation. (*d*) *δῆλα*: what would be the Attic usage? (*e*) *ἂν βαλεῖν*: give the Direct. To which form of condition does it belong?

3. (*a*) *μὴ δούς* (chap. 1): translate and explain why *μή* is employed. (*b*) *οὔνομα δέ οἱ ἦν Νίτητις* (chap. 1): remark on the form of *οὔνομα* and the use of *οἱ*. (*c*) *βασιλεῦσαι* (ch. 2): translate and distinguish between this form and *βασιλεύειν*. (*d*) *τῶν βουλομένων .... ἀνήρ* (ch. 8): translate and state on what word *βουλομένων* depends. (*e*) *ἔνθα τοὺ πάντας....δεδεσθαι* (ch. 23): translate and discuss grammatically.

4. (*a*) State what you know of the life of Herodotus. (*b*) In what dialect did he write? Give the forms in this dialect for *πέρσαις, πόλεως, ἐμοῦ, αἰτεῖν, σὺν, ὧν, ἑαυτοῦ*. (*c*) *τὴν Ἐρυθρὴν καλεομένην θάλασσαν*: what body of water did Herodotus mean? (*d*) Write brief notes upon *τοῦ Ἡφαίστου τὸ ἱρον, Αἰθιόπες, Τυφῶς, Μέμφις*.

5. Translate Demosthenes, Olynthiacs, (*a*) I., §§ 4-5: *οὐ μὴν ἀλλ ἐπεικῶς.... χώραν ἔχωσι*; (*b*) II, § 29: *ὑμεῖς δὲ.... ὡς ἐκείνους*.

6. (*a*) *οὐ μὴν ἀλλ' ἐπεικῶς*: supply the ellipsis. (*b*) *τὸ γὰρ εἶναι.... ἐναντίως ἔχει*: show the grammatical construction. (*c*) *ῥητῶν καὶ ἀπορρήτων*: translate into Latin. (*d*) Give the meaning and derivation of *ταμίαν, ἀναστάσεως, ἀπορρήτως, στρατηγόν*. (*e*) Give the geographical position of Olynthia, Pydna, Amphipolis.

7. Give an analysis of the Second Olynthiac.

8. Translate Homer, Odyssey, VII., 14–26 and 308–316.

9. (*a*) *ὥρτο πόλινδ' ἴμεν* (v. 14): give the Attic forms. (*b*) Explain the construction of *ἀμφί*, *φίλα*, *Ὀδυσῆι*. (*c*) Derive *κερτομέοι*, *ἐραννήν*. (*d*) Account for the optative in v. 17. (*e*) *ἐμέλλε δύσεσθαι*: remark on this construction. (*f*) What case does *ἡγέομαι* commonly govern? *ἀνάσσω*? Remark on the Homeric usage.

10. (*a*) *κεχολῶσθαι* (v. 310): explain the use of the infinitive. (*b*) Discuss the forms *ἐών*, *ἐσσι*, *ἐχέμεν*, *φρονέων*. (*c*) Account for the following constructions: (1) *αἳ γὰρ.... ἐχέμεν*; (2) *δοίην.... εἶκε μένοις*. (3) *μὴ.... γένοιτο*.

10. Translate (at sight):

(A) *Οἱ δὲ Ἀθηναῖοι ἀνταναγόμενοι ἐναυμάχησαν περὶ Ἄβυδον κατὰ τὴν ἠόνα μέχρι δείλης ἐξ ἑωθινοῦ. καὶ τὰ μὲν νικώντων, τὰ δὲ νικωμένων, Ἀλκιβιάδης ἐπεισπλεῖ δυοῖν δεούσαις εἴκοσι ναυσίν. ἐντεῦθεν δὲ φυγὴ τῶν Πελοποννησίων ἐγένετο πρὸς τὴν Ἄβυδον· καὶ ὁ Φαρνάβαζος παρεβοήθει, καὶ ἐπεισβαίνων τῷ ἵππῳ εἰς τὴν θάλατταν, μέχρι δυνατὸν ἦν ἐμάχετο, καὶ τοῖς ἄλλοις τοῖς αὐτοῦ ἱππεῦσι καὶ πεζοῖς παρεκελεύετο. Συμφράξαντες δὲ τὰς ναῦς οἱ Πελοποννήσιοι καὶ παραταξαμένοι πρὸς τῇ γῇ ἐμάχοντο. Ἀθηναῖοι δὲ ἀπέπλευσαν, τριάκοντα ναῦς τῶν πολεμίων λαβόντες κενὰς καὶ ἃς αὐτοὶ ἀπώλεσαν κομισάμεναι, εἰς Σηστόν.*

LATIN.

MONDAY, SEPTEMBER 14TH:—AFTERNOON, 2 TO 5.

Examiner,..... ....A. J. EATON, PH. D.

(A) LIVY, Bk. XXII.

1. Translate, chapt. 2: *Dum consul.....sequebantur.*

(*a*) *Placandis dis, habendo dilectu:* explain this construction, and state in what cases it is admissible. (*b*) To what does *id* (in *id omne veterani*, etc.) directly refer, and how can you account for its use here? (*c*) *quod exstaret:* why subjunctive?

2. Translate, chapt. 50: *Haec est pugna.....animus deesse.*

(*a*) *Aliensi cladi:* give the date of this event, and circumstances connected with it. (*b*) *cur...venire:* explain the infinitive.

3. (*a*) Translate *Ceterum prae strepitu...quem tecti* (chapt. 5), and explain the clauses *ut noscerent, ut competeret*. (*b*) Translate *Non modo... summovissent* (chapt. 60), and write notes upon any two grammatical constructions.

4. (*a*) *Iam ver appetebat* (ch. 1): the Spring of what year? (*b*) *Quirites:* what is its derivation, and how in its usage, commonly distinguished from *Romani?* (*c*) Write short explanations of *atri dies*, *lectisternium* (derivation), *Saturnalia.*

(B) HORACE, ODES, BK. I.

5. Translate Ode IV., vss. 13-20.

(*a*) *trahunt* (v. 2): to what custom does this word refer? What is the regular word? (*b*) Distinguish between *canus* and *albus.* (*c*) *Cytherea:* explain the epithet. (*d*) Describe the metre of this ode, and write out and scan the first two lines.

6. Translate, Ode XXXIV.

(*a*) *insanientis sapientiae:* what figure of speech? What doctrines does the poet say he here recants? (*b*) Give the derivation of *retrorsum* (v. 3) and *Diespiter* (v. 5), (how related to *Jupiter?*) (*c*) *Taenari* give geographical position. (*d*) Explain the use of the two words *apicem* (v. 14) and *stridor* (v. 15). (*e*) Name and explain the metre of this ode. Scan the first stanza.

(C) VIRGIL, GEORGICS, BK. I.

7. Translate vss. 43-50.

8. (*a*) *Deucaleon*, etc. (v. 62): relate more fully the myth here alluded to. (*b*) *coquat* (v. 66), give principal parts. (*c*) *Gargara:* where situated? (*d*) *inprobus* (v. 119): what seems to be its force here? Compare and translate *labor inprobus* (v. 146), *inproba voce* (v. 388).

9. (*a*) *Qua verteret* (v. 239): explain the Subjunctive: (*b*) Scan vss. 279, 295. (*c*) What rhetorical figure occurs in v. 299? (*d*) *tibi* (v. 343): account for its construction. (*e*) Explain the allusion to *Nisus* (v. 404).

10. Translate vss. 471-475.

(D) TRANSLATION AT SIGHT.

Tum matronae ad Veturiam, matrem Coriolani, Volumniamque uxorem frequentes coeunt. Pervicere ut et Veturia, magno natu mulier, et Volumnia duos parvos filios secum ferens in castra hostium irent, et quoniam armis viri defendere urbem non possent, mulieres precibus lacrimisque defenderent. Ubi ad castra ventum est, nuntiatumque Coriolano est adesse ingens mulierum agmen, primo, qui neque a legatis neque a sacerdotibus motus esset, multo obstinatior adversus lacrimas muliebres erat. Deinde familiarium quidam, qui Veturiam inter ceteras cognoverat inter nurum nepotesque stantem, "Nisi me frustrantur," inquit, "oculi, mater tibi coniuxque et liberi adsunt." Coriolanus cum matri complexum

ferret, mulier in iram ex precibus versa, "Sine, priusquam complexum accipio," inquit, "sciam utrum ad filium an ad hostem venerim, captiva materne in castris tuis sim." Uxor deinde ac liberi amplexi, fletusque ab omni turba ortus virum tandem fregere. Complexus inde suos dimittit; ipse retro ab urbe castra movit. Abductis deinde legionibus ex agro-Romano, alii alio leto periisse eum tradunt.

GENERAL PAPER.

THURSDAY, SEPT. 17TH :—AFTERNOON, 2 TO 5.

Examiner,.....A. J. EATON, PH.D.

1. Describe the physical geography of Ancient Greece, and point out in what ways it influenced the political destinies of the country.

2. (*a*) Give an account (with date) of the battle of Plataiai. (*b*) What events led to the subjugation of Greece to Rome?

3. Write on the following topics: (*a*) Comitia Centuriata. (*b*) Licinio-Sextian laws. (*c*) Capture of Saguntum. (*d*) Cato (234–149 B.C.) and his reforms.

4. Name and classify the consonants called mutes in Greek.

5. What is *crasis*? Illustrate by the following combinations: τὸ ὄνομα, ὁ ἐκ, καὶ ἀν, ὁ ἀνήρ. When is initial ρ doubled?

6. Define the terms *enclitics* and *proclitics*. Name the latter.

7. Decline ἠχώ (echo), giving both uncontracted and contracted forms, and carefully marking the accent.

8. Give the general rules for the formation of compound words in Greek or Latin. Divide into component parts, and remark on the formation of the following compounds: χορηγός, *chorus-director*; ἀρχιτέκτων, *master-builder*; cornicen, *horn-blower*; anceps, *double*.

9. Illustrate by examples the use of the *Ablative Absolute*, the *Objective Genitive*, the *Agent after Passive verbs* (in Greek and Latin).

10. What is the construction of Object Clauses after verbs of Fearing in Greek and Latin?

11. Before what combinations of consonants is the vowel always *long* in Latin? Before what combinations is it always *short*?

12. Distinguish between *hic*, *ille*, *iste* and *is*; *idem* and *idem*; *nonnullus* and *nullus non*.

13. Translate into Greek (accenting): (1) Let us speak what comes next to this. (2) More arms were taken than could have been expected from the number of the dead. (3) He has collected as many ships as possible. (4) If you do this you will be greatly benefited. (5) He says that he does not choose to go to the general, since he is not at leisure.

14. Translate into Latin (marking all long vowels):

Hannibal had been told that he could get possession of Capua, if he would but lead his army into that quarter; but Fabius and Minucius, uniting their forces, shut him in by blocking up the only road by which he was likely to march into Roman territory. Hannibal saw that he had to deal with a general in no way like the consuls he had met in recent years. Accordingly he hit upon the following trick to get out: he obtained two thousand head of cattle, fastened torches to their horns, and drove them at night-fall up the mountain. The animals, as they ran, shaking the blazing lights, looked like men running about and crossing the pass. Thus baffled, the guards left their posts, and the enemy immediately crossed in safety.

ORDINARY MATHEMATICS.

TUESDAY, SEPT. 15th:—MORNING, 9 TO 12.

Examiner, ... ALEXANDER JOHNSON, LL.D.

1. Construct a rectilinear figure equal to a given one, and similar to another.

2. If four right lines be proportional, the similar rectilineal figures similarly described on them will be also proportional.

3. Construct an isosceles triangle such that each of the base angles shall be double the vertical angle. Show that the base may be regarded as the side of a regular decagon inscribed in a circle of which the vertex is the centre.

4. If the opposite angles of any quadrilateral be together equal to two right angles, a circle may be described passing through the four vertices.

5. Prove $\dfrac{\sin A + \sin B}{\sin A - \sin B} = \dfrac{\tan \frac{1}{2}(A + B)}{\tan \frac{1}{2}(A - B)}$

6. Prove $\sin (A + B) = \sin A \cos B + \cos A \sin B$.

(a) Given $\sin A = \frac{1}{2}$, $\cos B = \dfrac{\sqrt{3}}{2}$, prove that $2B = \dfrac{\pi}{2} - A$.

7. The cosine an angle is equal to the cosine of its supplement, but with an opposite sign.

8. Find the circular measure of $18°$.

9. Prove the rule for finding the highest common factor (*i.e.* the greatest common measure) of two algebraical expressions.

10. Solve the equations :—

(*a*) $\sqrt{4x+1} - \sqrt{x+3} = \sqrt{x-2}$

(*b*) $5x + 2y + 3z = 13,\ 3x + 7y - z = 2,\ x - 2y + z = 5.$

(*c*) $\dfrac{x+a}{x-a} - \dfrac{x-b}{x+b} = \dfrac{2(a+b)}{x}$

11. If A were to give ten dollars to B, he would then have three times as much as B.; but if B were to give five dollars to A, A would have four times as much as B. How much has each ?

12. Find the time between 3 and 4 o'clock, when the hour and minute hands are together.

GEOMETRY.

TUESDAY, SEPTEMBER 15TH :— AFTERNOON, 2 TO 5.

Examiner,..... ..... ALEXANDER JOHNSON, LL.D.

1. A centre of similitude of two circles is joined with the point of contact of one of the circles with either common tangent through the other centre of similitude. Prove that the line joining the middle point of the line so drawn and the centre of the circle bisects that common tangent.

2. If a quadrilateral be inscribed in a circle, and another circumscribed touching at the angular points, prove that their diagonals intersect at the same point and form an harmonic pencil.

3. Describe eight circles touching three given circles.

4. Given any polygon, construct another polygon such that the vertices of each polygon shall be the poles of the corresponding sides of the other with respect to a given circle.

5. If any tangent be drawn to a given circle, and its pole taken with respect to any origin, the distance of the pole from the origin is to its distance from the polar of the centre as the distance of the centre from the origin is to the radius of the given circle.

6. The tangents at the angular points of any triangle inscribed in a circle intersect the opposite sides in three points which are situated in a straight line.

7. The anharmonic ratioof four fixed tangents to a circle is constant.

8. Given the base and sum of the sides of a triangle: the polar of the vertex with respect to oneextremity of the base as origin always touches a fixed circle.

9. If perpendiculars be drawn from any point on the circumference of a circle to the sides of an inscribed triangle, their feet shall be in the same straight line.

10. Describe a circle touching a given circle passing through a given point and having its centre in a given straight line passing through this point.

11. Divide a given straight line externally with segments, such that the rectangle under the segments shall be equal to the square on a given line.

12. Given the base and vertical angle of a triangle, find the locus of the intersection of its perpendicular.

THEORY OF EQUATIONS—ALGEBRA.

FRIDAY, SEPTEMBER 18TH:—MORNING, 9 TO 12.

Examiner,..... .....Alexander Johnson, LL.D.

1. If two real quantities a and b be substituted for the unknown quantity x in any polynomial $f(x)$, and if the results be one positive and the other negative, then the equation $f(x) = 0$, must have at least one real root intermediate in value between a and b.

2. Two polynomials of the n^{th} degree cannot be equal to one another for more than n values of the variable without being completely identical.

3. Imaginary roots enter an equation in pairs.

4. Solve the equation

$$x^3 - 5x^2 - 16x + 80 = 0$$

the sum of two of its roots being equal to nought.

5. Transform the equation

$$x^3 - 6x^2 + 4x - 7 = 0$$

into one which shall want the second term.

6. Find the roots of the equation

$$x^5 + x^4 + x^3 + x^2 + 1 = 0$$

7. Any value of x which renders $f(x)$ a maximum or minimum is a root of the derived equation $f'(x) = 0$.

8. Find the number and situation of the real roots of the equation.

$$x^3 - 2x - 5 = 0.$$

9. Prove the Binomial Theorem for a positive fractional index

10. From a ship's crew of 12 men, 5 are to be selected; how many possible combinations are there, (1) when one specified man is always included, (2) when one specified man is always excluded.

11. Find the greatest coefficient in the expansion of $(1 + x)^n$.

12. If the sum of n terms of an Arithmetical Progression be $2n + 3n^2$, find the r^{th} term.

13. Find the number of shot arranged in a complete pyramid, the base of which is an equilateral angle, one side of which contains n shot.

13. Transform 21125 from scale seven to scale eleven.

ENGLISH GRAMMAR.

WEDNESDAY, SEPTEMBER 16TH:—MORNING, { 9 to 10.30 (Matriculation). 9 to 12 (Exhibition).

Examiners, ... { CHAS. E. MOYSE, B.A. P. T. LAFLEUR, M.A.

[N.B.—Candidates for admission are responsible for the first seven questions; candidates for Exhibitions, for the whole paper.]

1. Express in as many ways as possible the fact that, "A taught B history," changing the words, if necessary.

2. Define and illustrate: Gender, Adjective Clause, Adjective Phrase, Auxiliary Verb.

3. Explain the various uses of "it."

4. State clearly and illustrate the uses of the terminal syllable *ing* in verbs.

5. Classify the conjunctives, with an example for each class.

6. Analyse fully:—

(*a*) Full many a flower is born to blush unseen, and waste its sweetness on the desert air. (*b*) There is no resistance to our will which may

not in some sense be pronounced to be evil, and yet the very exercise of power implies the idea of resistance. (*c*) His companion understood the art of managing men much better than he.

7. Parse every word in example (*a*) of question 6

8. What are the *kinds* of words that modern English has retained from Anglo-Saxon?

9. Give the force of each of the following particles and an illustration showing its use :—wick, ham, by, cester, ex, syn, amphi, burgh.

10. What are the principal Asiatic languages that have supplied words to the English language?

ENGLISH LITERATURE.

SHAKSPERE: *As You Like It.* TRENCH: *Study of Words.*

FRIDAY, SEPT. 18TH:—AFTERNOON, 2 TO 5.

Examiners, ... { CHAS. E, MOYSE, B.A. / P. T. LAFLEUR, M.A.

(N.B.—Sand in the Shakspere and French in separate handles of paper.)

A

1. Make short notes on the following characters: Jaques, Touchstone Celia, Adam.

2. Relate in outline the events contained in Act III.

3. Explain the following phrases: I will physic your rankness, as pigeons feed their young, with a kind of umber smirch my face, the roynish clown, drew a dial from his poke, you must borrow me Gargantua's mouth, weep for nothing like Diana in the fountain, I have trod a measure.

4. Quote three passages in the play that are remarkable for some special literary or dramatic quality, and justify your choice with some critical remark.

(The paper on French is the same as that set for the third year Scholarships.)

GERMAN.

Examiner.....P. TOEWS, M.A.

I. Translate: Adler's Reader, p. 48. Ein Franzoſe...Platz zu machen.

1. Ritt, ausweichen, betrat, geht gefällt. Give the principal parts of three verbs and conjugate throughout the present indicat: and subj: leſen.

2. Give the plural of Ende, Pferd, Einfall.

3. State the gender of Tag, Weg, Platz.

4. bis es euch gefällt. Parse euch.

II. Translate: Der Taucher (Adler's Reader, p. 137) stanzas 8-11.

1. Accent wiederkehrt, hinweggeſpült, Waſſerſchlund, Sturmesſauſen.

2. Compare: geheimnißvoll.

3. Give the plural of Rachen, Mund, Maſt.

4. Distinguish between der Maſt und die Maſt, der Lohn und das Lohn.

5. Parse: wärſt und gelüſtete.

6. Schließt, fahre, ſchoß. Give the principal parts of three verbs.

III. Translate: Der Gang nach dem Eiſenhammer. stanzas 4-7.

1. Darob. Give a more modern word.

2. Entbrennt, ſchwoll, hub. Give the principal parts of these verbs.

3. Rath, Weibertugend. Parse.

4. Compare raſch.

5. Give the Plural of That, Graf Leib.

6. voll Argliſt. What case? What case does voll govern when it is followed by an adjective and a noun?

IV. 1. Translate: I have caught cold (ſich erkälten); if I sang now, I should become hoarse. 2. The postman (Der Poſtbote) brought me the news, for which I was waiting. 3. The gentlemen whose acquaintance (Bekanntſchaft) I wished to make will be here to-morrow. 4. He who will not hear must feel (fühlen). 5. I have not used (brauchhen) the book you sent me yesterday. 6. To whom were you writing the letter the day before yesterday? 7. This bridge (Brücke) was built ten years ago. 8. He said the boy had been punished. 9. Would those boys not have been believed (glauben—dative), if they had always told the truth? (Warheit) 10. Whose books have you found? 11. Is the dinner served? (ſervieren No, it is being served. 12. I should

have paid him for them if I had thought of it. 13. Of what were you thinking when I met (begegnen) you. 14. Ask her what she thinks of my sister. 15. He said he would have sent you the carriage, if you had asked him for it.

V. Compare: hoch, ſanft, nahe.

VI. Decline: our new house, large garden, a good daughter.

VII. Decline throughout the present indicative and subjunctive handeln, and give the past participle of entſagen.

CHEMISTRY.

WEDNESDAY, SEPTEMBER 16TH:—AFTERNOON, 2 TO 5.

Examiner.....P. J. HARRINGTON, B.A., PH.D.

1. What do you understand by the tension of aqueous vapour?

2. How may the composition of Carbon Dioxide be determined synthetically? Give a sketch of the necessary apparatus.

3. On treating 100 grams of Sodium Carbonate with Hydrochloric Acid, how many grams of Sodium Chloride and how many litres of Carbon Dioxide will be formed?

4. Give the names and formulæ of the Oxy-acids of Phosphorus.

5. Why is it believed that Iron is present in the solar atmosphere?

6. State briefly what you know with regard to the Oxides and principal Salts of Lead.

7. What takes place when a solution of Ferrous Sulphate is added to one of a Gold Salt?

8. Name the principal salts of Copper, and explain the distinction between Cuprous and Cupric compounds.

9. What takes place (*a*) when Sodium Acetate is heated with Caustic Soda, (*b*) when Copper is heated with Sulphuric Acid? Give the equations.

10. What is a salt, and in what ways are salts formed?

MATHEMATICAL SCHOLARSHIP.

ANALYTICAL GEOMETRY. (*First Paper.*)

MONDAY, SEPT. 14TH:—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, LL. D.

1. From the general equation for a conic section, prove that there can be always drawn through the origin two real, or coincident, or imaginary lines, which will meet the curve at an infinite distance.

2. Using the general equation, find the locus of the middle points of all chords parallel to a given right line. Prove that every diameter passes through the centre (defining the terms centre and diameter), and explain the apparent exception.

3. Transform the equation

$$x^2 + 2xy - y^2 + 8x + 4y - 8 = 0$$

to the centre as origin.

4. Taking the equation of the ellipse referred to its axes, $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$, prove by transformation of co-ordinates that the equation may still retain the same form when the axes are not rectangular, and find the relation between the angles which any pair of these new axes make with the axis major of the curve.

5. The rectangle under the normal to an ellipse and the perpendicular from the centre on the tangent, is constant and equal to the square of the semi-axis minor.

6. The line joining the focus of an ellipse to the pole of any chord passing through it is perpendicular to that chord.

7. Find the locus of the intersection of tangents to a parabola, which cut one another at right angles.

8. If through a fixed point O any chord of a circle be drawn, and OQ be taken an arithmetic mean between the segments OP, OP', find the locus of Q, using polar co-ordinates.

9. Find the condition that the intercept made by the circle on the line

$$x \cos a + y \sin a = p$$

should subtend a right angle at the point x' y'.

10. Find the equation which will represent the lines bisecting the angles between the lines represented by the equation

$$ax^2 + bxy + cy^2 = 0.$$

11. Given the angles of a triangle, one vertex is fixed, another moves along a fixed right line, find the locus of the third (use polar co-ordinates).

12. If $S = 0$ $S^1 = 0$ be the equations of any two loci, prove that the locus represented by $S + kS^1 = 0$ (where k is any constant) passes through every point common to the two given lines.

ANALYTICAL GEOMETRY. (*Second Paper.*)

TUESDAY, SEPTEMBER 15TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. If $S = 0$ represent a conic an $\alpha = 0$ a right line, find what is represented by the equation $S = K\alpha^2$ (*l.f.* being a constant).

2. Show that two similar and concentric conics may be regarded as touching each other at two infinitely distant points.

3. If $l^2\alpha^2 + m^2\beta^2 + n^2\gamma^2$ represent a circle its centre must be the intersection of the perpendiculars of the triangle $\alpha\beta\gamma$.

4. If three conic sections have one chord common to all, their three other chords will pass through the same point.

5. A triangle is circumscribed to a given conic, two of its vertices move on fixed right lines, find the locus of the third.

6. Find the radius of curvature at any point of a parabola.

7. Using the eccentric angle ϕ show that the equation of a tangent to an ellipse is expressed by

$$\frac{x}{a}\cos\phi + \frac{y}{b}\sin\phi = 1.$$

8. Find the principal parameter of the parabola

$$9x^2 + 24xy + 16y^2 + 22x + 46y + 9 = 0$$

9. Prove by *trilinear co-ordinates* that the line joining the middle points of the sides of a triangle is parallel to the base.

10. Prove that the equation of a circle circumscribing a triangle is

$$\beta\gamma\sin A + \gamma\alpha\sin B + \alpha\beta\sin C = 0$$

11. Find the condition that two lines $l\alpha + m\beta + n\gamma = 0$ and $l'\alpha + m'\beta + n'\gamma = 0$ shall be mutually perpendicular.

12. Given the vertical angle of a triangle, and the sum of the reciprocals of the sides, the base will always pass through a fixed point.

CALCULUS, (*Third Paper*).

TUESDAY, SEPTEMBER 17TH :—MORNING 9 TO 12.

Examiner,..... ....ALEXANDER JOHNSON, LL.D.

1. Define the *evolute* of a curve, and prove that the length of any arc of the evolute is eqnal, in general, to the difference between the radü of curvature at its extremities. Define *involute*.

2. Find an expression for the radius of curvature in polar co-ordinates.

3. If two curves whose equations are $u = 0$, and $u' = 0$, intersect at a point (x, y) at right angles prove that

$$\frac{du}{dx}\frac{du'}{dx} + \frac{du}{dy}\frac{du'}{dy} = 0$$

(a) Apply the above to find the condition that the curves

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1, \quad \frac{x^2}{a'^2} + \frac{y^2}{b'^2} = 1$$

should intersect at right angle.

4. Find the length of the part of the normal to the catenary

$$y = \frac{a}{2}\left(e^{\frac{x}{a}} + e^{\frac{x}{a}}\right)$$

intercepted by the axis of x.

5. Prove that the area of the greatest triangle inseribeb in the ellipse is $\frac{3\,ab\,\sqrt{3}}{4}$

6. Find the maximum and the minimum values of $u = a \sin x + b \cos x$.

7. Assuming Lagranges theorem, prove that if $z = a + bz^2$ then

$$z = a + ba^3 + 3\,b^2\,a^5 + 12\,b^3\,a^7 + \text{etc.}$$

8. Find the value when $x = a$ of

$$u = \frac{e^{mx} - e^{ma}}{(x - a)^r}$$

9. If one side of right-angled triangled be regarded as an infinitely small quantity of the first order, prove that the difference between the hypotenuse and the remaining side is an infinitely small quantity of the second order.

10. Prove that the surface of a truncated cone is equal to the rectangle under the edge and the circumference of the mean section.

11. Find the volume of a spheroid.

12. Find the following integrals

$$\int \frac{d\theta}{1 - \sin^4 \theta} \; ; \quad \int \frac{dx}{(a + b\,x)^{\frac{1}{3}}} \; ; \quad \int \frac{dx}{(2 + 3x)\sqrt{4 - x^2}}$$

13. Find the integrals

$$\int \sin^5 \theta \cos^5 \theta \, d\theta \; ; \quad \int e^x \cos^2 x \, dx \; ; \quad \int \cos^5 \theta \, d\theta$$

14. Find the formula of reduction for $\int \frac{x^m \, dx}{(a + 2\,bx + cx^2)^{\frac{1}{2}}}$

15. Find the integral

$$\int \frac{dx}{1 + x^3}, \quad \int \frac{3x \, dx}{x^2 \, x - 2}, \quad \int \sin^{-1} x \, dx.$$

16. Find by integration the area of a circle.

HIGHER ALGEBRA—THEORY OF EQUATIONS—PLANE AND SPHERICAL TRIGONOMETRY. (*Fourth Paper.*)

FRIDAY, SEPTEMBER 18TH:—MORNING, 9 TO 12.

Examiner,.....ALEXANDER JOHNSON, LL.D.

1. Write down the determinant which is the square of the determinant $(a_1\ b_2\ c_3)$.

2. If a determinant vanish, prove that its minors $A_1\ A_2$ &c., are respectively proportional to $B_1\ B_2$ &c.

3. Calculate the value of the determinant

$$\begin{vmatrix} 67, & 19 & 21 \\ 39 & 13 & 14 \\ 81 & 24 & 26 \end{vmatrix}$$

(by transformation into determinants with lower numbers).

4. If ω be one of the imaginary cube roots of unity, find the value of

$$\begin{vmatrix} 1, & \omega, & \omega^2 \\ \omega, & \omega^2, & 1 \\ \omega^2 & 1 & \omega \end{vmatrix}$$

5. If α, β, γ, be the roots of the cubic

$$x^3 - px^2 + qx - r = 0$$

form the equation whose roots are

$$\beta\gamma + \frac{1}{\alpha}, \quad \gamma\alpha + \frac{1}{\beta}, \quad \alpha\beta + \frac{1}{\gamma}.$$

6. Find the positive root of the equation

$$4x^3 - 13x^2 - 31x - 275 = 0$$

7. Solve the equation $x^5 - 1 = 0$.

8. The equations

$$2x^3 + 5x^2 - 6x - 9 = 0$$
$$3x^3 + 7x^2 - 11x - 15 = 0$$

have two common roots, find them.

9. In a spherical triangle given
$A = 32° 54' 28''$, $B = 146° 58' 9''$, $C = 24° 54' 47''$ find a.

10. In a right-angled spherical triangle the hypotenuse $c = 37° 40' 20''$, $a = 37° 40' 12''$ find b.

11. Prove series (for Napierian base)

$$\log m = 2\left\{\frac{m-1}{m+1} + \frac{1}{3}\left(\frac{m-1}{m+1}\right)^3 + \frac{1}{5}\left(\frac{m-1}{m+1}\right)^3 + \&c.\right\}$$

12. Sum the series

$$\sin\alpha + \sin(\alpha+\beta) + \sin(\alpha+2\beta) + \&c.$$

13. Show that $\tan^{-1}\frac{3}{4} = 2\tan^{-1}\frac{1}{3}$.

CLASSICAL AND MODERN LANGUAGE SCHOLARSHIPS.

GREEK.

MONDAY, SEPTEMBER 14TH:—MORNING, 9 TO 12.

Examiner, ... REV. GEORGE CORNISH, LL.D.

1. Translate:—Euripides, Medea:—

(A) ΚΡΕ. *λέγεις ἀκοῦσαι μαλθάκ', ἀλλ' ἐσω φρενῶν*
ὀρῥωδία μοι μή τι βουλεύῃς κακόν,
τοσῷδε δ' ἧσσον ἡ πάρος πέποιθά σοι·
γυνὴ γὰρ ὀξύθυμος, ὡς δ' αὔτως ἀνήρ,
ῥᾴων φυλάσσειν ἢ σιωπηλὸς σοφός.

ἀλλ' ἐξιθ' ὡς τάχιστα, μὴ λογους λέγε·
ὡς ταῦτ' ἄραρε, κοὐκ ἐχεις τέχνην ὅπως
μενεῖς παρ' ἡμῖν, οὐσα δυσμενὴς ἐμοι,
ΜΗΔ. μή, πρός σε γονάτων τῆς τε νεογάμου κόρης.
ΚΡΕ. λόγους ἀναλοῖς· οὐ γὰρ ἂν πείσαις ποτέ.
ΜΗΔ. ἀλλ' ἐξελᾷς με κοὐδὲν αἰδέσει λιτάς;
ΚΡΕ. φιλῶ γὰρ οὐ σὲ μᾶλλον ἢ δόμους ἐμούς.
ΜΗΔ. ὦ πατρίς, ὡς σου κάρτα νῦν μνείαν ἐχω.

(B) Καὶ ταῦθ' ὑφ' ἡμῶν, ὦ κάκιστ' ἀνδρῶν, παθὼν
προὔδωκας ἡμᾶς, καινὰ δ' ἐκτήσω λέχη,
παίδων γεγώτων· εἰ γὰρ ἦσθ' ἄπαις ἔτι,
σύγγνωστ' ἂν ἦν σοι τοῦδ' ἐρασθῆναι λεχους.
ὅρκων δὲ φρούδη πίστις, οὐδ' ἔχω μαθεῖν
ἢ θεοὺς νομίζεις τοὺς τότ' οὐκ ἀρχειν ἔτι,
ἢ καινὰ κεῖσθαι θέσμ' ἐν ἀνθρώποις τὰ νῦν,
ἐπεὶ σύνοισθά γ' εἰς ἐμ' οὐκ εὔορκος ὤν.
φεῦ δεξιά χείρ, ἧς σὺ πολλ' ἐλαμβάνου,
καὶ τῶνδε γονάτων, ὡς ματην κεχρώσμεθα,
κακου πρὸς ἀνδρος, ἐλπίδων δ' ἡμάρτομεν.
ἀγ' ὡς φίλῳ γὰρ ὄντι σοι κοινώσομαι,
δοκοῦσα μή τι πρός γε σοῦ πράξειν καλῶς,
ὅμως δ' ἐρωτηθεὶς γὰρ αἰσχίων φανεῖ.

2. Ext. (A):—(1) *μή τι βουλεύης—βουλεύσης*,—distinguish between these variants. (2) *ἀκοῦσαι μαλθάκ'—ῥᾴων φυλάσσειν*,—what use of the Infinitive? (3) *ὅπως μενεῖς—μένῃς*,—distinguish between these readings. (4) *πρός σε γονάτων*,—explain the construction.

3. Ext. (B):—(1) *γεγώτων, τοῦδ' λέχους, ὅρκων, ἧς, γονάτων, ἐλπίδων*,—explain these several uses of the Genitive. (2) scan vs. 6. (3) *θέσιν*,—parse and give the *Nom. Sing.*

4. Translate:—Demosthenes, The Olynthiacs:—

(C) Ἆρα λογίζεταί τις ὑμῶν, ὦ ἄνδρες Ἀθηναῖοι, καὶ θεωρεῖ τὸν τρόπον δι' ὃν μέγας γέγονεν ἀσθενὴς ὢν τὸ κατ' ἀρχὰς Φίλιππος; τὸ πρῶτον Ἀμφίπολιν λαβὼν, μετὰ ταῦτα Πύδναν, πάλιν Ποτίδαιαν, Μεθώνην αὖθις, εἶτα Θετταλίας ἐπέβη· μετὰ ταῦτα Φερὰς, Παγασὰς, Μαγνησίαν, πάνθ' ὃν ἐβούλετο εὑτρεπίσας τρόπον ᾧχετ' εἰς Θρᾴκην· εἶτ' ἐκεῖ τοὺς μὲν ἐκβαλὼν, τοὺς δὲ καταστήσας τῶν βασιλέων ἠσθένησε· πάλιν ῥαΐσας οὐκ ἐπὶ τὸ ῥᾳθυμεῖν ἀπέκλινεν ἀλλ' εὐθὺς Ὀλυνθίοις ἐπεχείρησεν· τὰς δ' ἐπ' Ἰλλυριοὺς καὶ Παίονας αὐτοῦ καὶ πρὸς Ἀρύββαν καὶ ὅποι τις ἂν εἴποι παραλείπω στρατείας.

(D) Ἐγὼ γὰρ ὦ ἄνδρες Ἀθηναῖοι, σφόδρ' ἂν ἐγούμην καὶ αὐτὸς φοβερὸν τὸν Φίλιππον καὶ θαυμαστὸν, εἰ τὰ δίκαια πράττοντο ἑώρων ηὐξημένον· νῦν δὲ θεωρῶν καὶ σκοπῶν εὑρίσκω τὴν μὲν ἡμετέραν εὐήθειαν τὸ κατ' ἀρχὰς, ὅτε Ὀλυνθίους ἀπήλαυνόν τινες ἐνθένδε βουλομένους ὑμῖν διαλεχθῆναι, τῷ τὴν Ἀμφίπολιν φάσκειν παραδώσειν καὶ τὸ θρυλούμενόν ποτε ἀπόρρητον ἐκεῖνο κατασκευάσαι, τούτῳ προσαγαγόμενον, τὴν δ' Ὀλυνθίων φιλίαν μετὰ ταῦτα τῷ Ποτίδαιαν οὖσαν ὑμετέραν ἐξελεῖν καὶ τοὺς μὲν πρότερον συμμάχους ὑμᾶς ἀδικῆσαι, παραδοῦναι δ' ἐκείνοις, Θετταλοὺς δὲ νῦν τὰ τελευταῖα τῷ Μαγνησίαν παραδώσειν ὑποσχέσθαι καὶ τὸν Φωκικὸν πόλεμον πολεμήσειν ὑπὲρ αὐτῶν ἀναδέξασθαι. ὅλως δ' οὐδεὶς ἔστιν ὅντιν' οὐ πεφενάκικεν ἐκεῖνος τῶν αὐτῷ χρησαμένων· τὴν γὰρ ἑκάστων ἄνοιαν ἀεὶ τῶν ἀγνοούντων αὐτὸν ἐξαπατῶν καὶ προσλαμβάνων οὕτως ηὐξήθη.

5. (*a*) Explain the term *Olynthiacs*. (*b*) When and with what political object were these orations delivered? (*c*) Explain the geographical references of Ext. (C). (*d*) Explain :—*τὰ θεωρικά. λειτουργίαι. ψήφισμα. προβούλευμα.* (*e*) *ἠνώχλει* :—parse and explain this form.

6. Translate :—Xenophon, Hellenics, Book I :—

(E) Ἀλκιβιάδης δὲ πρὸς τὴν γῆν ὁρμισθεὶς ἀπέβαινε μὲν οὐκ εὐθέως, φοβούμενος τοὺς ἐχθρούς· ἐπαναστὰς δὲ ἐπὶ τοῦ καταστρώματος ἐσκόπει τοὺς αὐτοῦ ἐπιτηδείους, εἰ παρείησαν. κατιδὼν δὲ Εὐρυπτόλεμον τὸν Πεισιάνακτος αὐτοῦ δὲ ἀνεψιόν, καὶ τοὺς ἄλλους οἰκείους καὶ τοὺς φίλους μετ' αὐτῶν, τότε ἀποβὰς ἀναβαίνει εἰς τὴν πόλιν μετὰ τῶν παρεσκευασμένων, εἴ τις ἄπτοιτο, μὴ ἐπιτρέπειν. ἐν δὲ τῇ βουλῇ καὶ τῇ ἐκκλησίᾳ ἀπολογησάμενος ὡς οὐκ ἠσεβήκει εἰπὼν δὲ ὡς ἠδίκηται, λεχθέντων δὲ καὶ ἄλλων τοιούτων καὶ οὐδενὸς ἀντειπόντος διὰ τὸ μὴ ἀνασχέσθαι ἂν τὴν ἐκκλησίαν, ἀναρρηθεὶς ἁπάντων ἡγεμὼν αὐτοκράτωρ, ὡς οἷός τε ὢν σῶσαι τὴν προτέραν τῆς πόλεως δύναμιν, πρότερον μὲν τὰ μυστήρια τῶν Ἀθηναίων κατὰ θάλατταν ἀγόντων διὰ τὸν πόλεμον, κατὰ γῆν ἐποίησεν ἐξαγαγὼν τοὺς στρατιώτας ἅπαντας· μετὰ δὲ ταῦτα κατελέξατο στρατιάν, ὁπλίτας μὲν πεντακοσίους καὶ χιλίους, ἱππέας δὲ πεντήκοντα ἀκὶ ἑκατόν, ναῦς δ' ἑκατόν.

7. Explain carefully the syntax of the following ext. :—(*a*) Ἡμέραις δὲ τριάκοντα ὕστερον Ἀλκιβιάδης ἐκ Σάρδεων μετὰ Μαντιθέου τοῦ ἁλόντος ἐν Καρίᾳ ἵππων εὐποπήσαντες νυκτὸς ἀπέδρασαν. (*b*) ἅπαντας παρέταξε ὡς μαχούμενος ἂν προσίωσιν. (*c*) δεῖ ὑμᾶς ἐξηγεῖσθαι τοῖς ἄλλοις ξυμμάχοις. (If it were *τῶν ξυμμάχων*, what would be the difference in meaning ?)

8. (F) Translate, Thucydides, Book VI., Chap. 34, down to *κατ' ὀλίγον προσπίπτουσα*. *διὰ φόβου εἰσί* :—Comment on and illustrate this use of *διά*. Explain the force of *ἐς* in *ἀναστῆσαι Ἀθηναίους ἐς Τάραντα*, and also *περὶ* in *περὶ τῇ Σικελίᾳ ἢ τοὺς ἐκείνους περαιωθῆναι*.

9. Translate :—(G) Herodotus, Bk. VIII., chaps. 85–86.

10. (*a*) Give an account of the dialect used by Herodotus, and turn the following words into the common dialect :—*ὤν, ποιέει, ἑωυτοῦ, ἀπίκατο, ὀτεῳ, ἀληθέα, πλώοντες, τρηχέως, θύρησι, νῆας, πείθεο, πλεῦνες.* (*b*) Point out the chronological relation of Thucydides, Herodotus and Xenophon in the history of the Peloponnesian War.

11. (*a*) Distinguish between :—*οἱ σοφοὶ ἄνθρωποι, σοφοὶ οἱ ἄνθρωποι,* and *οἱ σοφοὶ τῶν ἀνθρώπων. ὁ οὐ πιστεύων* and *ὁ μὴ πιστεύων. ἔβησα* and *ἔβην. ἔστησα* and *ἔστην. ἔφυσα* and *ἔφυν. πέπεικα* and *πέποιθα. ὅλωλεκα* and *ὄλωλα.* (*b*) Give the various meanings, according to their accent, of :—*εἰμι, τιμησαι, νεων, οἰκοι, σιγα, βιος.*

LATIN.

TUESDAY, SEPTEMBER 15TH :—MORNING, 9 TO 12.

Examiner, ...REV. GEORGE CORNISH, LL.D.

1. Translate :—(A) Tacitus, Annals, Bk. I., chap. lviii.

2. (*a*) Turn the first two sentences in the above ext. into the *Orat. obliqua,* stating the general rules for this. (*b*) In the clause *Verum quia * * * probabam,* what is omitted, and where is there zeugma. (*c*) *Illa nox* :—explain. (*d*) *Tui copia* :—complete the phrase. (*e*) *Arminius* :—Give the German form of this. (*e*) Translate, carefully explaining the words in Italics :—

Mox indiscretis vocibus pretia *vacationum,* angustias *stipendii* duritiam operum ac propriis nominibus incusant *vallum, fossas, pabuli materiæ lignorum* adgestus, et si qua alia ex necessitate aut adversus otium castrorum quaeruntur.

3. Translate :—(B) Pliny, Select Letters :—

C. PLINIUS CANINO SUO S.

Deliberas mecum, quem ad modum pecunia, quam municipibus nostris in epulum obtulisti, post te quoque salva sit. Honesta consultatio, non expedita sententia. Numeres rei publicae summam? verendum est ne dilabatur. Des agros? ut publici neglegentur. Equidem nihil commodius invenio, quam quod ipse feci. Nam pro quingentis milibus nummum, quae in alimenta ingenuorum ingenuarumque promiseram, agrum ex meis longe pluris actori publico mancipavi : eundem vectigali inposito recepi, tricena milia annua daturus. Per hoc enim et rei publicae sors in tuto nec reditus incertus, et ager ipse propter id, quod vectigal large supercurrit, semper

dominum, a quo exerceatur, inveniet. Nec ignoro me plus aliquanto quam donasse videor erogavisse, cum pulcherrimi agri pretium necessitas vectigalis infregerit. Sed oportet privatis utilitatibus publicas, mortalibus aeternas anteferre multoque diligentius muneri suo consulere quam facultatibus. Vale.

4. (*a*) *Municipibus nostris*:—who were these? explain the term *municipium*. (*b*) *Numeres*:—Why the subjunctive? (*c*) *Actori publico; mancipavi*:—explain. (*d*) *Tricena milia*:—supply the ellipsis and expand the phrase, giving the value of the sum in our currency.

5. Translate:—(*c*) Horace, Epistles, Bk. I., Ep. 13.

6. Write short explanatory notes on:—(*a*) Signata volumina. (*b*) Cliellas. (*c*) Vinosa Pyrrhia. (*d*) *Glomus* or *glomos?* Decline the former. (*e*) Conviva tribulis.

7. How do you explain the following usages? (*a*) *Nodosa* corpus prohibere *cheragra*. (*b*) Atqui rerum caput hoc *erat*. (*c*) Indigni fraternum *rumpere* foedus. (*d*) Liber *mihi* non erit unquam. (*e*) Si curas esse quod *audis*. (*f*) Hæc tibi *dictabam*. (*g*) *Quod* te per genium obsecro. (*h*) Domini *deduxit* corpore febres.

8. Give the meaning and derivation of the following words:—Camena, sodes, catellam, periscelidem, diludia, personam, catellus, fenore, cœnacula, supellex, exilis.

9. Translate:—(D) Virgil, Georgics, Bk. I., vss. 100-117.

10. Derive the word *Georgics*, and name the writer whom Virgil took as his model in this department of his poems. (*b*) Explain the following geographical or mythological references:—(1) Chaoniam glandem. (2) Ceae. (3) Puer monstrator aratri. (4) Erigonen. (5) Sabaei. (6) Fauces Abydi. (*c*) Do you write *Vergil* or *Virgil*, and why?

11. Translate:—(E) Terence, Adelphi:—

DE. Quid autem? SY. Adortus iurgiost fratrem apud forum
De psaltria istac. DE. Ain uero? SY. Ah, nil reticuit.
Nam ut numerabatur forte argentum, interuenit
Homo de inprouiso: coepit clamare 'o Aeschine,
Haecine flagitia facere te! haec te admittere
Indigna genere nostro!' DE. Oh, lacrumo gaudio.
SY. 'Non tu hoc argentum perdis, sed uitam tuam.'
DE. Saluos sit: spero, est similis maiorum suom. SY. Hui.
DE. Syre, praeceptorum plenust istorum ille. SY. Phy:
Domi habuit unde disceret. DE. Fit sedulo:
Nil praetermitto: consuefacio: denique
Inspicere tamquam in speculum in uitas omnium
Iubeo atque ex aliis sumere exemplum sibi.
'Hoc facito.' SY. Recte sane. DE. 'Hoc fugito.' SY. Callide.

12. Construe and explain the syntax of:—(*a*) In oro est omni populo. (*b*) Haec si neque ego neque tu fecimus. (*c*) Id laudi ducis quod fecisti inopia. (*d*) Ei mihi ne corrumpantur cautio est. (*e*) Ut cum opus sit ne in mora nobis siet. (*f*) Discrucior animi; animo male est.

13. (*a*) Parse the forms faxo, faxim and faxem, and explain their formation. (*b*) Parse the following:—reprensum, alserit, insuerit, tradier, refrixerit. (*c*) Write out in full the following contractions:—sis, exporge, demsi, produxe, cedo (*imper.*), lautum, enarramus, siit, norimus, scisse.

GREEK AND LATIN PROSE COMPOSITION.

MONDAY, SEPTEMBER 14TH:—AFTERNOON, 2 TO 5.

Examiner,..... REV. GEORGE CORNISH, LL.D.

(A) Translate into Greek:—

1. Pythagoras used to say that these two excellent things had been given by the gods to men,—speaking truth and doing good. 2. The King hoped that the Athenians would come out against him and not suffer their land to be laid waste. 3. Gelon, after having conquered the Carthaginians at Himera, brought the whole of Sicily under his sway. 4. So long as Pericles was their leader, the Athenians performed many noble achievements. 5. The general happened to be present; had he not, the heavy-armed infantry of the enemy would have entered the town without being discovered. 6. Having said these things they took their departure; when this had been said they took their departure.

(B) Translate into Latin:—

At these words the multitude were the more inflamed. The women, holding up their children, began to wail; boys and old men flung themselves at his feet, and, embracing his knees, besought him to stay and be a partner in their danger. Josephus in his History says that they did not do this, because they were stirred by jealousy lest he should escape unharmed, whilst their lives were in danger, but that they hoped that, if he stayed, they also would be saved from death. Therefore, since he was both moved with compassion, and saw that, if he did not listen to their prayers, it might happen that he would be detained by force, Josephus determined to stand firm at his post. And so he led them out, thus excited, to make a most furious attack upon the enemy. "If," he cried, "there is no hope of safety, let us die gallantly, and leave a glorious example to posterity." All the bravest gathered round him, and some, rushing suddenly forth, drove back the Roman pickets, and, getting as far as the lines, laid waste everything with fire and sword,

ANCIENT HISTORY.

TUESDAY, SEPTEMBER 15TH:—AFTERNOON, 2 TO 5.

Examiner,..... REV. GEORGE CORNISH, LL.D.

1. (*a*) Write a geographical description of Eubœa. (*b*) Derive and explain the terms *Euripus, Chersonesus, Cyclades, Sporades.* (*c*) Name the islands on the west of Greece, giving modern names of any.

2. A short account of the earliest inhabitants of Greece, with the supposed genealogy of the four great divisions of the Greek race.

3. (*a*) Write an account of the colonies, trade and commerce of the Phœnicians. (*b*) In what ways was their influence upon the Greek States felt?

4. Sketch the rise and progress of the Persian empire, naming the four Greek writers that are authorities on Persian History.

5. Give a short account, with dates, of the public events in which the following persons played an important part, severally:—(1) Peisistratus; (2) Mardonius; (3) Pericles; (4) Thrasybulus.

6. When and on what grounds did Rome first interfere in Grecian affairs?

7. (*a*) Write a short account of the reforms of Servius Tullius. (*b*) Give the names of the Roman kings in chronological order, and mention those that were of foreign extraction.

8. Give the dates of the following measures, and in each case state the advantages gained by the Plebs, or the chief enactments of the measure:—(*a*) The Decemviral legislation. (*b*) The Valerian laws. (*c*) The Licinian laws. (*d*) The Lex Hortensia.

9. Give (by map or verbal description) the geographical position of the following places, and state very briefly with what events they were connected:—Allia, Ægates, Zama, Metaurus, Caudine Forks, Saguntum, Agrigentum, Capua.

10. Write an account of the war with Pyrrhus.

11. Over what nations did the Roman sway extend at the close of the second Punic war.

ENGLISH LITERATURE.

SPALDING (in part); MILTON, *Paradise Lost*, (Bks. I and II.)

WEDNESDAY, SEPT. 16TH:—MORNING, 9 TO 12.

Examiners,..... { CHAS. E. MOYSE, B.A. / P. T. LAFLEUR, M.A.

(Answer A and B on separate bundles of paper.)

A

1. Give one leading work of each of the following, and state the category of literary work to which it belongs. Give also the approximate dates of the writer—Marlowe, Greene, Otway, Samuel Butler, Swift, Bolingbroke, Akenside, Blair, Thomas Campbell, Bentham.

2. Classify writings of Fiction in prose, with one example of each class.

3. Discuss briefly the question of the Dramatic Unities, both *pro* and *contra*.

4. Give your own opinion of the effects of the imitation by the writers of Queen Anne's time of models taken from France, upon (*a*) English prose, (*b*) English poetry.

5. Write a brief summary of the poetical works of Cowper and of Byron. State the leading characteristics of each as a writer; and give some reason for the popularity of each in his day.

B

1. Give an outline of Belial's arguments before the Council.

2. Trace Satan through the first two books of Paradise Lost.

3 (*a*) How does Milton describe the subject of his poem?

(*b*) How does Milton allude to places famous for architectural magnificence in his description of Pandemonium?

(*c*) To what wanderings is allusion made when Satan's journey is being described?

(*d*) What properties are ascribed to Spirits?

4. "Milton's vocabulary and style are scholarly." Justify this statement carefully, taking your examples from both books.

ENGLISH COMPOSITION.

THURSDAY, SEPT. 17TH :—AFTERNOON, 2 TO 5.

Examiners,..... { CHARLES E. MOYSE, B.A.
P. T. LAFLEUR, M.A.

1. Define and illustrate: Tautology, Metaphor, Parenthesis, Ambiguity.

2. Distinguish between, admission, admittance; gain, win; ingenious, ingenuous; new, novel; deprecate, depreciate; entire, complete.

3. State the principal differences between the language of ordinary prose and that of poetry.

4. Write an essay of at least two pages on any *one* of the following subjects :—

1 Political Honesty.
2. A Student's Holiday.
3. Genius depends largely on the faculty of taking pains.

ENGLISH LITERATURE.

SHAKSPERE, *The Tempest;* TRENCH, *On the Study of Words.*

FRIDAY, SEPT. 18TH :—AFTERNOON, 2 TO 5

Examiners,..... { CHAS. E. MOYSE, B.A.
P. T. LAFLEUR, M.A.

(Candidates will write the answers to groups A and B on separate bundles of paper.

A.

1. From what source or sources has it been conjectured that Shakspere drew hints for The Tempest, whether in plot or in incident?

2. Contrast the character of Ariel with that of Caliban, and quote from the text in support of your statements.

3. Summarise the contents of:—(*a*) the first dialogue between Prospero and Miranda, (*b*) the conspiracy of Stephano, Trinculo and Caliban against Prospero's life.

4. Make short explanatory notes on:—forthrights and meanders, temperate nymphs, be turned to barnacles, an excellent pass of pate, yarely, pioned and twilled brims, mooncalf, they will not give a doit, you cram these words into mine ear against the stomach of my sense.

B.

1. Write on the following words:—

(*a*) Religion and religious.

(*b*) Essay.

(*c*) Classics.

2. In regard to vocabulary write briefly on:—

(*a*) The Normans.

(*b*) The Arabs.

(*c*) Astrology.

3. Notice (*a*) the vocabulary of comedy, (*b*) evidence derived from important names on the map of England. Mention persons in Homer, Boiardo, Cervantes, Swift and Moliere, whose names have passed into ordinary speech.

4. After each of the following heads, write three words which illustrate it:—

(*a*) Poetry in the names of flowers.

(*b*) Fair words for ugly things.

(*c*) Needless scruples about words.

(*d*) Etymologies at random.

Discuss two of the words you have written after (*d*).

5. Write a notice of Trench "On the Study of Words," about a page in length, and such as you would send to a critical journal.

GERMAN.

Examiner, ... P. Toews, M. A.

I. Translate Schiller:—Der Neffe als Onkel II Act VII Scene: Fr. v. Dorsigny. Laß uns allein..... vortrefflich gefallen.

1. Distinguish between Geſicht, Angeſicht und Antlitz.

2. Distinguish between Gemahl und Gatte.

3. .....erinnern. Translate I do not remember it.

4. todt. How is that word spelled now?

5. verheirathet. Translate: 1. He is married to my cousin. 2. He says, she is going to get married to his brother.

6. laſſen ſich's.....gefallen. Parse sich's and translate: You can do what you please.

II. Translate: Schiller. Egmont's Leben und Tod p. 9 to 17. Die Rolle, welche.....zu verbinden.

1. Decline Herz.

2. Druck. Distinguish between drucken und drücken.

3. Theil. Distinguish between der Theil und das Theil. Give the Plural.

III. Translate: Schiller. Die Kraniche der Ibycus, stanza 15—17 (incl.) Und ſchauerlich.....auch dort nicht frei.

1. Distinguish between Bande, Bände, Bänder.

2. Mark. Distinguish between die Mark und das Mark. Give the plural of die Mark.

3. Schuld. Translate: He says he cannot pay his debts.

4. Give the Plural of Bahn, That, Geſchlecht.

5. State the gender of Klang, Fehle, Boden, Ermatten.

6. Accent: Beſinnungsraubend, herz bethörend.

IV. Translate: The English (Engländer), says Sidney Smith, are a calm (ruhig), reflecting (überlegend) people; they are ready (bereit) to give time and money as soon as (ſobald) they are convinced (überzeugt) of a thing; but they love dates (Zahl), names, and certificates. (Beglaubigungsſchein) In the midst of the most heartrending (herzerreißend) narratives (Erzählung), John Bull requires (verlangen) the day of the month (Datum), the year of our Lord (Jahreszahl), the name of the parish (Kirchſpiel), and the counter sign (Unterſchrift) of three or four respectable (angeſehen) householders. (Hausherr). As soon as these affecting (rührend) circumstances (Umſtand) have been stated (angeben), he can no longer hold out (es aushalten), but gives way (freien Lauf laſſen) to his natural kindness, puffs (ſchnaubeu) blubbers (ſchluchzeu) and subscribes.

SCIENCE SCHOLARSHIPS.

BOTANY. (*First Paper.*)

TUESDAY, SEPTEMBER 15TH :—9 TO 12 A.M.

Examiner,..... ..... D. P. PENHALLOW, B. Sc.

1. Explain the composition of the embryo in Phanerogams, and show what structural variations are to be observed and their value in classification.

2. Explain fully the origin, duration and functional value of the root cap and root hairs in spermaphytes.

3. Explain the leading types of inflorescence, with examples of each.

4. Give two examples of metamorphosis in a flower, and show what law is illustrated.

5. Compare the Linnœan and modern systems of classification with respect to their value in exhibiting natural relationships.

6. Outline the component parts of a seed, and show what equivalent structure, if any, is found in the cryptogams.

7. Outline fully the life history of an Equisetum.

8. Give the leading divisions and subdivisions of the vegetable kingdom.

9. Explain the meaning of the term alternation of Generations, and apply it to a dicotyledon, also to a fern.

10. A leaf is said to perform the functions of transpiration and digestion. Explain fully how these functions are performed, and show how the leaf is structurally adapted to them.

BOTANY. (*Second Paper.*)

TUESDAY, SEPTEMBER 15TH:—2 TO 5 P.M.

Examiner,..... .....D. P. PENHALLOW, B. Sc.

1. Explain fully the characteristics of the genus Equisetum.

2. Classify specimens 1, 2, 3.

3. Explain fully the characteristics of the order Filices.

4. Show in what essential respects the Muscineae and Hepaticeae differ.

5. Give the leading characteristics of the *Saxifragaceae Labiatae* and *Coniferæ*.

6. Classify as to their families, specimens designated as No. 4.

7. Give the characteristics of the order *Sapindaceae*, enumerate the Canadian genera and point out their special economic value.

8. Enumerate the families of Canadian plants of leading economic value.

9. Compare the distribution of the *Muscineae*, *Ericaceae*, *Ranunculaceae Filices* with reference to latitude.

Analysis of plants, Thursday, 9-12 a.m.

CHEMISTRY.

WEDNESDAY, SEPT. 16TH:—AFTERNOON, 2 TO 5.

Examiner, ...B. J. HARRINGTON, B.A., PH.D.

1. An open vessel is heated from Zero to 546° C. What proportion of the air which it at first contained now remains?

2. What do you understand by the natural arrangement of the elements?

3. How may low temperatures be obtained by means of solid Carbon Dioxide?

4. Show the importance of specific heat determinations in checking or in ascertaining atomic weights.

5. State what you know with regard to the Oxides of Manganese.

6. What do you understand by valency and variation of valency?

7. What are Carbo-hydrates? Into what classes are they divided? Name the principal members of each class.

8. 0.3059 gram of a substance gave on combustion 0.60 gram of Carbon Dioxide and 0.304 gram of Water. Deduce the simplest formula for the substance.

9. Name the Vegetable Acids, and state what you know with regard to their occurrence in nature.

10. What are Fraunhofer's lines? What their significance?

LOGIC.

WEDNESDAY, SEPTEMBER 16TH:—MORNING, 9 TO 12.

Examiners,..... { J. CLARK MURRAY, LL.D.
P. T. LAFLEUR, M.A.

1. Explain with illustrations the distinction between Deductive and Inductive reasonings.

2. State three fundamental laws of thought; and discuss more particularly the purport and value of any one.

3. Define Name and Proposition, with examples: give also the Subdivisions of each.

4. Construct Syllogisms in Camestres, Disamis, and Bokardo; and reduce them.

5. Classify the non-logical fallacies; and explain fully with examples the nature of any one.

6. Write the Canon of the method of Residues; and shew its application in one example.

7. Contrast Analysis and Synthesis as scientific methods; and explain their use in scientific work.

8. Distinguish carefully between Hypothesis and Theory; shew the value of each in argument; and illustrate with examples.

FACULTY OF APPLIED SCIENCE.

ENTRANCE EXAMINATIONS, &c.,

SEPTEMBER, 1891.

Property of Applied Science
Entrance Examinations
September, 1891.

FACULTY OF APPLIED SCIENCE.

ENTRANCE EXAMINATIONS.

(For First Year Mathematics See Faculty of Arts.)

SENIOR MATRICULATION.

MATHEMATICS (First Paper).

Tuesday, September 15th:—Morning, 9 to 12.

Examiner,..... G. H. Chandler, M.A.

ARITHMETIC.

1. What principal will amount to $1,000 in 3 years at 4 per cent. per annum, interest being (1) simple, (2) compound?

2. A square tennis court can be turfed for $630 at 8 cents per square foot; what would it cost to enclose it with a fence at 15 cents per foot?

ALGEBRA.

3. Reduce the fractions

$$\frac{20\,x^4 + x^2 - 1}{25\,x^4 + 5\,x^3 - x - 1} \text{ and } \frac{2\,x^2 + xy - y^2}{x^3 + x^2\,y - x - y}$$

to their lowest terms.

4. Find the square root of

$$4\,x^4 - 12\,x^3 + 25\,x^2 - 24\,x + 16,$$

and of

$$(x + x^{-1})^2 - 4\,(x - x^{-1}).$$

5. Show that $\sqrt[4]{24\sqrt[3]{18}} \div \sqrt{2\sqrt{12}} = \sqrt[6]{\frac{3}{2}}$.

6. Solve the equation $\frac{x+2}{x-1} - \frac{4-x}{2x} = \frac{7}{3}$,

and the simultaneous equations

$$\left.\begin{aligned} xy + xy^2 &= 12 \\ x + xy^3 &= 18 \end{aligned}\right\}$$

GEOMETRY.

7. From a given point outside a circle to draw a tangent to the circle.

8. To make an isosceles triangle having each of the base angles double of the vertical angle.

9. Equal parallelograms which have an angle of the one equal to an angle of the other have their sides about the equal angles reciprocally proportional.

10. If any plane cut a pair of parallel planes it shall cut them in parallel lines.

SENIOR MATRICULATION.

MATHEMATICS (SECOND PAPER).

TUESDAY, SEPTEMBER 15TH:—AFTERNOON, 2 TO 5.

Examiner, ... G. H. CHANDLER, M.A.

1. Show that

(1) $\tan A - \tan B = \dfrac{\sin (A - B)}{\cos A \cos B}$,

(2) $\sin A + \cos A = \sqrt{2} \sin (45° + A)$,

(3) $\tan (45° + A) = \dfrac{\cos 2A}{1 - \sin 2A}$.

2. In any triangle

(1) $\cos \dfrac{A}{2} = \sqrt{\dfrac{s(s-a)}{bc}}$,

(2) $\dfrac{a+b}{c} = \dfrac{\cos \dfrac{A-B}{2}}{\sin \dfrac{C}{2}}$.

3. In the triangles in which

(1) $a = 241$, $b = 169$, $C = 15° 22' 37''$,

(2) $a = 4.09$, $b = 2.41$, $c = 1.82$

show that

(1) $c = 90$, $A = 134° 45' 37''$, $B = 29° 51' 46''$,

(2) $A = 150° 8' 14''$, $B = 17° 3' 41''$, $C = 12° 48' 5''$.

EXHIBITION EXAMINATION.

MATHEMATICS.

TUESDAY, SEPTEMBER 15TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Find the equation of the line joining (1, 11) to the intersection of the lines $2x + 5y = 8$, $3x - 4y = 8$.

2. Find the locus of a point the sum of the squares of whose distances from two fixed points is constant.

3. Tangents to a parabola from any point on the directrix are at right angles to one another.

4. Show that the normal at any point on an ellipse bisects the angle between the focal distances of the point. State the corresponding property of the hyperbola.

5. If $x^3 + y^3 = 3axy$, show that

$$\frac{dy}{dx} = -\frac{x^2 - ay}{y^2 - ax}, \qquad \frac{d^2y}{dx^2} = \frac{2a^3xy}{(ax - y^2)^3}.$$

6. How could you cut out four equal squares from the corners of a given square, so that the remaining area (the edges being turned up) would form a rectangular box of greatest volume?

7. State and prove a formula for finding the radius of curvature at any point of a given curve.

8. Show that

(1) $$\int_0^a \frac{x\,dx}{\sqrt{a^2 + x^2}} = a(\sqrt{2} - 1),$$

(2) $$\int_0^{\frac{\pi}{4}} \tan^2 x\,dx = 1 - \frac{\pi}{4},$$

(3) $$\int_0^{\frac{\pi}{4}} \frac{\sin x\,dx}{\cos^2 x} = \sqrt{2} - 1,$$

(4) $$\int_0^2 \frac{3\,dx}{4 + 9x^2} = \tfrac{1}{2}\tan^{-1} 3.$$

9. Find by integration the area of an ellipse, and the volume of a prolate spheroid.

*10. Show that the moment of inertia of a right circular cylinder about its geometrical axis = mass $\times \frac{r^2}{2}$.

*11. Find the centre of gravity of the area included between the curve $y^2(a^2 - x^2) = a^4$ and its asymptote $x = a$.

*12. A cylinder of radius a and depth b is filled with water and made to revolve about a vertical axis. Show that half of the water will be thrown out when the angular velocity $= \frac{1}{a}\sqrt{2g}\,b$.

EXAMINATION FOR THE SCOTT EXHIBITION.

SECOND YEAR.

MACAULAY: *History of England*, vol. I., cap. 1.

Examiner, ... CHAS. E. MOYSE, B.A.

How does Macaulay treat the following subjects?

(*a*) The reign of John.

(*b*) The fate of limited monarchies of the middle ages, and England's escape from that fate.

(*c*) The History of Scotland and Ireland previous to 1603, and the difference between the peoples of those countries.

(*d*) Political history from the second expulsion of the Long Parliament to the Restoration.

(*e*) Thomas Wentworth.

EXAMINATION FOR THE SCOTT EXHIBITION.

SECOND YEAR.

SCOTT, *Lady of the Lake*.

Examiner, ... CHAS. E. MOYSE, B.A.

1. Draw a rough map (*or* describe) the position of important localities connected with the story of the poem, and mention briefly what occurred in each.

2. Quote from the poem or give in your own words two descriptions of

(*a*) Still life,

(*b*) Life in action,

(*c*) Personal characteristics,

which you think especially good, and say why you think them so.

3. Write on the Lady of the Lake:—

(*a*) As a Scotch poem.

(*b*) As pourtraying the marks of Scott's genius.

EXAMINATION FOR THE SCOTT EXHIBITION.

THIRD YEAR.

(The paper on Macaulay is the same as that set for the Scott Exhibition of the Second Year, and the paper on Shakspere's Tempest is the same as that set for the Third Year Scholarship in the Faculty of Arts.)

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SESSIONAL EXAMINATIONS,

1892.

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FACULTY OF ARTS.

SESSIONAL EXAMINATIONS, 1892.

FIRST YEAR.

GREEK.—HOMER, ILIAD, BK. XXII.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner, ... A. J. EATON, M.A., PH.D.
Assistant Examiner, ... JOHN L. DAY, B.A.

[Write the answers to (A) and (B) on separate sets of papers.]

1. Translate :

Ἕκτορα δ' ἀσπερχὲς κλονέων ἕφεπ' ὠκὺς Ἀχιλλεύς
Ὡς δ' ὅτε νεβρὸν ὄρεσφι κύων ἐλάφοιο δίηται,
Ὄρσας ἐξ εὐνῆς, διά τ' ἄγκεα καὶ διὰ βήσσας·
Τὸν δ' εἴ πέρ τε λάθῃσι καταπτήξας ὑπὸ θάμνῳ,
Ἀλλά τ' ἀνιχνεύων θέει ἔμπεδον, ὄφρα κεν εὕρῃ·
ὡς Ἕκτωρ οὐ λῆθε ποδώκεα Πηλείωνα.
ὁσσάκι δ' ὁρμήσειε πυλάων Δαρδανιάων
ἀντίον αἰζασθαι ἐϋδμήτους ὑπὸ πύργους,
εἴ πως οἱ καθύπερθεν ἀλάλκοιεν βελέεσσι,
τοσσάκι μιν προπάροιθεν ἀπ: στρέψασκε παραφθας
πρὸς πεδίον· αὐτὸς δὲ ποτὶ πτόλιος πέτετ' αἰεί.

2. (*a*) Account for the use of the Subjunctive and Optative moods in the above passage. (*b*) Give the principal parts of *λάθῃσι*, *εὕρῃ*, *θέει*. (*c*) Decline together *ὠκὺς Ἀχιλλεύς*. (*d*) Inflect *τιμάω* in the present indic., active and middle.

3. Translate :—

Οἷος δ' ἀστὴρ εἶσι μετ' ἀστράσι νυκτὸς ἀμολγῇ
Ἕσπερος, ὃς κάλλιστος ἐν οὐρανῷ ἵσταται ἀστὴρ,
Ὡς αἰχμῆς ἀπελαμπ' εὐήκεος, ἣν ἄρ' Ἀχιλλεὺς
Πάλλεν δεξιτερῇ φρονέων κακὸν Ἕκτορι δίῳ,
Εἰσορόων χρόα καλὸν, ὅπῃ εἴξειε μάλιστα.
Τοῦ δὲ καὶ ἄλλο τόσον μὲν ἔχε χρόα χάλκεα τεύχεα,

Καλὰ, τὰ Πατρόκλοιο βίην ἐνάριξε κατακτάς·
Φαίνετο δ' ἢ κληῖδες ἀπ' ὤμων αὐχέν' ἔχουσιν,
Λαυκανίην, ἵνα τε ψυχῆς ὠκιστος ὄλεθρος.
Τῇ ῥ' ἐπὶ οἱ μεμαῶτ' ἔλασ' ἐγχεῖ δῖος Ἀχιλλεὺς,
Ἀντικρὺ ὃ' ἀπαλοῖο δι' αὐχένος ἦλυθ' ἀκωκή.

4. (*a*) What is the subject of ἀπέλαμπ'? (*b*) Πατρόκλοιο βίην: remark on the expression. (*c*) τῇ ῥ' ἐπί: supply the ellipsis. (*d*) To what present stem does κατακτάς belong? (*e*) What is the present stem of ἔχω? Show the formation of the imperfect from this stem. (*f*) Give the principal parts of ἦλυθε, ἵστημι.

(B)

5. (*a*) Write notes on the following: Παλλάς, εἰν Ἀΐδαο, Σκαιῇσι Πύλῃσι, Ἀστυάναξ, Ὀλύμπιος.

6. (*a*) Name the four dialects which predominated in ancient Greece, and state concisely to which one the *Epic* belongs. What are the salient characteristics of each? (*b*) Write a full account of the Digamma, treating of its history and its application to Homeric versification. Mention the difficulties in connection with it, and also the principal (five) theories advanced for their removal. (*c*) Under what circumstances is *hiatus* legitimate? (six cases).

7. (*a*) Etymology (with meaning): ταλαύρινον, ἀδινοῦ, αἰόλαι, τίπτε, ἀοσσητήρ, ἀγηνορίης, ταναηλεγέος. (*b*) Tense and mood (with principal parts): δειδέχατ', ἔρυσο, αμπνυτο, ἴξεν, τέθναθι, ἔπλεο, ὀρώρῃ.

8. Translate:

"Δεῦτε, δύω μοι ἐπεσθον. Ἴδωμ' ὅτιν' ἔργα τέτυκται. 450
Αἰδοίης ἐκυρῆς ὀπὸς ἔκλυον, ἐν δ' ἐμοὶ αὐτῇ
Στήθεσι πάλλεται ἦτορ ἀνὰ στόμα, νέρθε δὲ γοῦνα
Πήγνυται· ἐγγὺς δή τι κακὸν Πριάμοιο τέκεσσιν.
Αἰ γὰρ ἀπ' οὐατος εἴη ἐμεῦ ἔπος· ἀλλὰ μάλ' αἰνῶς
Δείδω μὴ δή μοι θρασὺν Ἕκτορα δῖος Ἀχιλλεὺς,
Μοῦνον ἀποτμήξας πόλιος, πεδίονδε δίηται,
Καὶ δή μιν καταπαύσῃ ἀγηνορίης ἀλεγεινῆς,
Ἥ μιν ἔχεσκ', ἐπεὶ οὔ ποτ' ἐνὶ πληθυὶ μένεν ἀνδρῶν,
Ἀλλὰ πολὺ προθέεσκε, τὸ ὃν μένος οὐδενὶ εἴκων."

9. (*a*) Give Attic forms for Epic in last extract. (*b*) Scan the first four lines of this extract. (*c*) What is particularly noticeable in the line Δεῦτε.... (450)?

10. Explain *briefly* the following constructions:

(i) *οὐδέ νυ πώ με, Ἔγνως ὡς θεός εἰμι.*

(ii) *ἑλοιμί κεν ἢ κεν ἁλοίην.*

(iii) *εἰ δ' ἄγετ', ἀμφὶ πόλιν σὸν τεύχεσι πειρηθῶμεν,*
ὄφρα κέ τι γνῶμεν Τρώων νοον ὀντιν ἔχουσιν.

(iv) *νῦν αἴ κ' ἂν πολλὰ πάθησι, φίλου ἀπὸ πατρὸς ἀμαρτών.*

11. Write on any *one* of the following topics:

I. The Homeric controversy.

II. The preservation of the Iliad.

III. The state of society in Homeric Greece.

INTERMEDIATE EXAMINATION.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiners,..... } W. CROCKET, M.A.
{ A. J. EATON, M.A., PH.D.

Assistant Examiner,.....JOHN L. DAY, B.A.

Write the answers to A and B on separate sets of papers.

A.—PLATO, APOLOGY.

1. Translate:

(A) *καί μοι, ὦ ἄνδρες Ἀθηναῖοι, μὴ θορυβήσητε, μηδ' ἐὰν δόξω τι ὑμῖν μέγα λέγειν· οὐ γὰρ ἐμὸν ἐρῶ τὸν λόγον ὃν ἂν λέγω, ἀλλ' εἰς ἀξιόχρεων ὑμῖν τὸν λέγοντα ἀνοισω. τῆς γὰρ ἐμῆς, εἰ δή τίς ἐστι σοφία καὶ οἵα, μάρτυρα ὑμῖν παρέξομαι τὸν θεὸν τὸν ἐν Δελφοῖς. Χαιρεφῶντα γὰρ ἴστε που. οὗτος ἐμός τε ἑταῖρος ἦν ἐκ νέου καὶ ὑμῶν τῷ πλήθει ἑταῖρός τε καὶ ξυνέφυγε τὴν φυγὴν ταύτην καὶ μεθ' ὑμῶν κατῆλθε. καὶ ἴστε δὴ οἷος ἦν Χαιρεφῶν, ὡς σφοδρὸς ἐφ' ὅ τι ὁρμήσειε. καὶ δή ποτε καὶ εἰς Δελφοὺς ἐλθὼν ἐτόλμησε τοῦτο μαντεύσασθαι· καὶ ὅπερ λέγω μὴ θορυβεῖτε, ὦ ἄνδρες· ἤρετο γὰρ δὴ εἴ τις ἐμοῦ εἴη σοφώτερος. ἀνεῖλεν οὖν ἡ Πυθία μηδένα σοφώτερον εἶναι. καὶ τούτων περὶ ὁ ἀδελφὸς ὑμῖν αὐτου οὑτοσὶ μαρτυρήσει, ἐπειδὴ ἐκεῖνος τετελεύτηκεν.*

(B) *Ἴθι δὴ νῦν εἰπὲ τούτοις, τίς αὐτοὺς βελτίους ποιεῖ; δῆλον γὰρ, ὅτι οἶσθα, μέλον γε σοι. τὸν μὲν γὰρ διαφθείροντα ἐξευρών, ὡς φῄς, ἐμὲ εἰσάγεις τουτοισὶ καὶ κατηγορεῖς· τὸν δὲ δὴ βελτίους ποιοῦντα ἴθι εἰπὲ καὶ μήνυσον αὐτοῖς, τίς ἐστιν. ὁρᾷς, ὦ Μέλητε, ὅτι σιγᾷς καὶ οὐκ ἔχεις εἰπεῖν; καίτοι οὐκ αισχρόν σοι δοκεῖ εἶναι καὶ ἱκανὸν τεκμήριον οὗ δὴ ἐγὼ λέγω, ὅτι σοι οὐδὲν μεμέληκεν; ἀλλ' εἰπέ, ὦ ἀγαθέ, τίς αὐτοὺς ἀμείνους ποιεῖ; Οἱ νόμοι.*

(C) *εἰ δ' αὖ οἷον ἀποδημῆσαί ἐστιν ὁ θάνατος ἐνθένδε εἰς ἄλλον τόπον, καὶ ἀληθῆ ἐστι τὰ λεγόμενα, ὡς ἄρα ἐκεῖ εἰσὶν ἅπαντες οἱ τεθνεῶτες, τί μεῖζον*

γαθὸν τούτου εἴη ἄν, ὦ ἀνδρες δικαστοί; εἰ γὰρ τις ἀφικόμενος εἰς Ἅιδου, ἀπαλλαγεὶς τούτων τῶν φασκόντων δικαστῶν εἶναι, εὑρήσει τοὺς ὡς ἀληθῶς δικαστάς, οἵπερ καὶ λέγονται ἐκεῖ δικάζειν, Μίνως τε καὶ Ῥαδάμανθυς καὶ Αἰακὸς καὶ Τριπτόλεμος, καὶ ἄλλοι ὅσοι τῶν ἡμιθέων δίκαιοι ἐγένοντο ἐν τῷ ἑαυτῶν βίῳ, ἆρα φαύλη ἂν εἴη ἡ ἀποδημία.

2. Explain the grammatical construction of (A) *μέγα, ἐὰν ὀόξω, ὃν ἂν λέγω, ὅτι ὁρμήσειε, εἴη, μὴ θορυβεῖτε* (cf. *μὴ θορυβήσητε*, and distinguish between them); (B) *μέλον, οὖ*; (C) *Ἅιδου, δικαστῶν, Μίνως*.

3. (*a*) State in what mood and tense the following verbs are found, giving their principal parts: *ἀνοίσω, ἤρετο, ἀνεῖλεν, τετελεύτηκεν, τεθνεῶτες, εὑρήσει*. (*b*) Give the verbal stem, and explain the formation therefrom, of the present stem of *τεθνεῶτες, φαίνεται, ἐφυγε, ὀμώμοκεν λαμβάνων*.

4. Translate, and say under what class of conditional sentences the following come:

(*α*) *ἀλλ' ἐὰν μοὶ πείθησθε φείσεσθέ μοι.* (*β*) *καὶ ἴσως ἂν διὰ ταῦτ, ἀπέθανον, εἰ μὴ ἡ ἀπορία διὰ ταχέων κατελύθη.* (*γ*) *εἰ οὖν με ἐπὶ τούτοις ἀφίοιτε, εἴποιμ' ἂν ὑμῖν.* (*δ*) *εἰ δὲ δαιμόνια νομίζω, καὶ δαιμόνας δήπου πολλὴ ἀνάγκη νομίζειν με ἔστιν.* (*ε*) *πολλὴ γὰρ ἂν εὐδαιμονία εἴη περὶ τοὺς νέους, εἰ εἷς μὲν μόνος αὐτοὺς διαφθείρει.* (*ζ*) *καὶ ἐπειδάν τις αὐτοὺς ἐρωτᾷ ὅ τι διδάσκων, ἔχουσιν οὐδὲν εἰπεῖν.* (*η*) *νῦν δὲ ὡς ἔοικεν, εἰ τριάκοντα μόναι μετέπεσον τῶν ψήφων, ἀποπεφεύγη ἄν.*

In the last example, carefully explain the form *ἀποπεφευγη*.

5. (*a*) To what extent may the Apology be said to be a report of what Socrates actually said in court? (*b*) Write out an analysis of the Apology.

6. (*a*) Before what court was Socrates tried? Explain the constitution of this court. (*b*) Explain the following law terms: *δικασταί, ἀγῶνες τιμητοί, δικαί, γραφαί, οἱ ἑνδεκα, κλέψυδρα*.

B. Xenophon, Memorabilia, Bk. I.

7. Translate:

Θαυμαστὸν δὲ φαίνεταί μοι καὶ τὸ πεισθῆναί τινας, ὡς Σωκράτης τοὺς νέους διέφθειρεν, ὃς, πρὸς τοῖς εἰρημένοις, πρῶτον μὲν ἀφροδισίων καὶ γαστρὸς πάντων ἀνθρώπων ἐγκρατέστατος ἦν· εἶτα πρὸς χειμῶνα καὶ θέρος καὶ πάντας πόνους καρτερικώτατος· ἔτι δὲ πρὸς τὸ μετρίων δεῖσθαι πεπαιδευμένος οὕτως, ὥστε πάνυ μικρὰ κεκτημένος πάνυ ῥᾳδίως ἔχειν ἀρκοῦντα. Πῶς οὖν, αὐτὸς ὢν τοιοῦτος, ἄλλους ἂν ἢ ἀσεβεῖς ἢ παρανόμους ἢ λίχνους ἢ ἀφροδισίων ἀκρατεῖς ἢ πρὸς τὸ πονεῖν μαλακοὺς ἐποίησεν; ἀλλ' ἔπαυσε μέν τούτων πολλοὺς ἀρετῆς ποιήσας ἐπιθυμεῖν, καὶ ἐλπίδας παρασχὼν, ἂν ἑαυτῶν ἐπιμελῶνται καλοὺς καὶ ἀγαθοὺς ἐσεσθαι.

8. Translate :

Ἀλλὰ Σωκράτης γ', ἔφη ὁ κατέγορος, τοὺς οατέρας προπηλακίζειν ἐδίδασκε, πείθων μὲν τοὺς συνόντας αὐτῷ σοφωτέρους ποιεῖν τῶν πατέρων, φάσκων δὲ κατὰ νόμον ἐξεῖναι παρανοίας ἑλόντι καὶ τὸν πατέρα δῆσαι, τεκμηρίῳ τούτῳ χρώμετος, ὡς τὸν ἀμαθέστερον ὑπὸ τοῦ σοφωτέρου νόμιμον εἴη δεδέσθαι. Σωκράτης δὲ τὸν μὲν ἀμαθίας ἕνεκα δεσμεύοντα δικαίως ἂν καὶ αὐτὸν φἔτο δεδέσθαι ὑπὸ τῶν ἐπισταμένων ἃ μὴ αὐτὸς ἐπίσταται· καὶ τῶν τοιούτων ἕνεκα πολλάκις ἐσκόπει, τί διαφέρει μανίας ἀμαθία. καὶ τοὺς μὲν μαινομένους ᾤετο συμφερόντως ἂν δεδέσθαι καὶ αὐτοῖς καὶ τοῖς φίλοις, τοὺς δὲ μὴ ἐπισταμένους τὰ δέοντα δικαίως ἂν μανθάνειν παρὰ τῶν ἐπισταμένων.

9. χειμῶνα, what other meaning has this word? κεκτημένος, why nom.? τοιοῦτος, what is the general usage of derivatives from the pronouns ὅδε, οὗτος, ἐκεῖνος?—ἂν....ἐπιμελῶνται, explain the construction. προπηλακίζειν, derivation of: φάσκων. Remark on the use of this word. μανίας, what genitive? ἂν δεδέσθαι, why is ἂν found here?

10. (1) Under what circumstances is μή used with the infinitive instead of οὐ? (2) Distinguish ἅτε and ὡς (with participle); ποιεῖν and πράττειν.

11. In what play, and by what author, was Socrates held up to ridicule? In how far did this satire reflect public opinion? Who were the Sophists, and what position did they occupy in Athens? Name some of the literary contemporaries of Socrates.

12. Write notes, historical, or otherwise, on: (α) ἐν τῇ ὀλιγαρχίᾳ. (β) ψυχή. γ) πληθοίσης ἀγορᾶς. (δ) τοὺς ἐννέα στρατηγοὺς μιᾷ ψήφῳ. (ε) νομοθέτης.

THIRD YEAR.

GREEK.—ÆSCHYLUS.—PROMETHEUS VINCTUS.

THURSDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, M.A., LL.D.

1. Translate:—

(A) ΧΟ. οὐκ ἀκούσαις ἐπεθώϋξας
τοῦτο, Προμηθεῦ.
καὶ νῦν ἑλαφρῷ ποδὶ κραιπνόσυτον
θᾶκον προλιποῦσ',
αἰθέρα θ' ἁγνὸν πόρον οἰωνῶν

ὀκριοέσσῃ χθονὶ τῇδε πελῶ·
τοὺς σοὺς δὲ πόνους
χρῄζω διὰ παντὸς ἀκοῦσαι.

ΩΚ. ἥκω δολιχῆς τέρμα κελεύθου
διαμειψάμενος πρὸς σὲ, Προμηθεῦ,
τὸν πτερυγωκῆ τόνδ' οἰωνὸν
γνώμῃ στομίων ἄτερ εὐθύνων·
ταῖς σαῖς δὲ τύχαις, ἴσθι, συναλγῶ.
τό τε γάρ με, δοκῶ, ξυγγενὲς οὕτως
ἐσαναγκάζει,
χωρίς τε γένους οὐκ ἔστιν ὅτῳ
μείζονα μοῖραν νείμαιμ' ἢ σοί.
γνώσει δὲ τάδ' ὡς ἔτυμ', οὐδὲ μάτην
χαριτογλωσσεῖν ἔνι μοι· φέρε γὰρ
σήμαιν' ὅ τι χρή σοι ξυμπράσσειν·
οὐ γάρ ποτ' ἐρεῖς ὡς Ὠκεανοῦ
φίλος ἐστὶ βεβαιότερός σοι.

(B) ΠΡ. λέξω τορῶς σοι πᾶν ὅπερ χρῄζεις μαθεῖν,
οὐκ ἐμπλέκων αἰνίγματ', ἀλλ' ἁπλῇ λόγῳ,
ὥσπερ δίκαιον πρὸς φίλους οἰγειν στόμα.
πυρὸς βροτοῖς δοτῆρ' ὁρᾷς Προμηθέα.

ΙΩ. ὦ κοινὸν ὠφελέλημα θνητοῖσιν φανείς,
τλῆμον Προμηθεῦ, τοὐ δίκην πάσχεις τάδε;

ΠΡ. ἁρμοῖ πέπαυμαι τοὺς ἐμοὺς θρηνῶν πόνους.

ΙΩ. οὐκουν πόροις ἂν τήνδε δωρεὰν ἐμοί;

ΠΡ. λέγ' ἥντιν' αἰτεῖ· πᾶν γὰρ ἂν πύθοιό μου.

ΙΩ. σήμηνον ὅστις ἐν φάραγγί σ' ὤχμασε.

ΠΡ. βούλευμα μὲν τὸ Διὸν, Ἡφαίστου δὲ χείρ.

ΙΩ. ποινὰς δὲ ποίων ἁμπλακημάτων τίνεις;

ΠΡ. τοσοῦτον ἀρκῶ σοι σαφηνίσαι μόνον.

ΙΩ. καὶ πρός γε τούτοις τέρμα τῆς ἐμῆς πλάνης
δεῖξον τίς ἔσται τῇ ταλαιπώρῳ χρόνος.

ΠΡ. τὸ μὴ μαθεῖν σοι κρεῖσσον ἢ μαθεῖν τάδε.

(C) ΕΓ. χλιδᾶν ἔοικας τοῖς παροῦσι πράγμασι.

ΗΡ. χλιδῶ; χλιδῶντας ὧδε τοὺς ἐμοὺς ἐγὼ
ἐχθροὺς ἰδοιμι· καὶ σὲ δ' ἐν τούτοις λέγω.

ΕΡ. ἦ κἀμὲ γάρ τι ξυμφοραῖς ἐπαιτίᾳ;

ΠΡ. ἁπλῷ λόγῳ τοὺς πάντας ἐχθαίρω θεούς,
ὅσοι παθόντες εὖ κακοῦσί μ' ἐκδίκως.

ΕΓ. κλύω σ' ἐγὼ μεμηνότ' οὐ σμικρὰν νόσον.

ΠΡ. *νοσοῖμ' ἂν, εἰ νόσημα τοὺς ἐχθροὺς στυγεῖν.*
ΕΡ. *εἴης φορητὸς οὐκ ἄν, εἰ πράσσοις καλῶς.* 979
ΠΡ. *ὤμοι.* ΕΡ. *τόδε Ζεὺς τοὔπος οὐκ ἐπίσταται.*
ΠΡ. *ἀλλ' ἐκδιδάσκει πάνθ' ὁ γηράσκων χρόνος.*
ΕΡ. *καὶ μὴν σύ γ' οὔπω σωφρονεῖν ἐπίστασαι.*
ΠΡ. *σὲ γὰρ προσηύδων οὐκ ἂν ὄνθ' ὑπηρέτην.*
ΕΡ. *ἐρεῖν ἔοικας οὐδὲν ὧν χρήζει πατήρ.*
καί μὴν ὀφείλων γ' ἂν τίνοιμ' αὐτῷ χάριν. 985
ΕΡ. *ἐκερτόμησας δῆθεν ὡς παῖδ' ὄντα με.*

2. In ext. (A),—(*a*) Parse *ἀκούσαις*, noting the quantity of the first syllable. (*b*) *δολιχῆς*, explain the reference. (*c*) *νείμαιμ'*, why is the Optative used? (*d*) *πτερυγωκῆ*,—of what compounded?

3. In ext. (B),—(*a*) *ἁπλῇ*, give the etymology of this word, and adduce cognates in Latin and English. (*b*) *ἀρωῖ*,—what case is this, and what is the derivation of the word? Whence is the poet said to have brought it and on what occasion? (*c*) *τοσοῦτον ἀρκῶ σαφηνίσαι*, —explain this formula. (*d*) *ἢ μαθεῖν τάδε*,—why is the second article omitted here?

4. In ext. (C),—(*a*) *συμφοραῖς*,—what use of the Dative? (*b*) Show the exact construction of vs. 985. (*c*) In vs. 980 what is there peculiar?

5. Write short notes on the syntax of the following phrases:—(1) *σοὶ δὲ χρὴ μέλειν ἐπιστολάς.* (2) *ὡς ἂν διδαχθῇ στέργειν.* (3) *ἀνηκούστειν τῶν λόγων.* (4) *δεινὸς γὰρ εὑρεῖν.* (5) *ὅπως μὴ σαυτὸν οἰκτιεῖς.* (6) *εἰ γὰρ με* * * *ἦκεν ὡς μήτε* * * *ἐπεγήθει.* (7) *μὴ πού τι προὔβης τῶνδε*; (8) *τί δῆτα μέλλεις μὴ οὐ γεγωνισκειν τὸ πᾶν*; (scan this vs.).

6. Give as accurately as you can the derivation and meaning of the following:—*ἄψορρον, ὑπτιάσμασιν, δαφοινός, ῥάκος, ἀκρατής, ἄκρατος, διά, ἀκονος, βοσπορος. αἰολοστόμους, οἰακοστρόφος, εὐωνύμους, χριστόν, πιστόν βατον* (or *ἄβροτον*?).

7. Parse carefully the following words:—*σφῷν, σφέ, νίν, μίν, τοῦ, του, βᾶσαι, θράξαι, ἦσαν, ἀχθεσθῇ, μεθάρμασαι, ἀκήδει.*

8. Explain the following forms:—*ἀχέτας, πόποι, τᾶς, βούκερω, δᾶ, ἄλευ, γέρα, ἴοτατι, οὐμός, τἄν.*

9. (*a*) Name the *Dramatis Personae* of this play, and the other dramas of Aesohylus in which he used the legend of Prometheus. (*b*) How many actors were allowed on the stage at the same time? (*c*) Give the approximate date of this Drama, and why?

10. (*a*) Name the metres used severally in extt. (A) and (B), and give the scale of each. (*b*) Scan the first four vss. of these extracts. (*c*) *αἰτούμεσθα* :—why is this termination used?

B.A. ORDINARY EXAMINATION.

GREEK.— { ÆSCHINES.—CONTRA CTEPHISONTEM. / ÆSCHYLUS.—PROMETHEUS VINCTUS.

MONDAY, APRIL 18TH :—MORNING, 9 TO 12.

Examiner,..... REV. GEORGE CORNISH, M.A., LL.D.

1. Translate :—

(A) *μὴ γὰρ ὅτι πόλις, ἀλλ' οὐδ' ἂν ἰδιώτης οὐδέ εἰς οὕτως ἀγεννὴς γένοιτο, ὥστε αὐτὸς ἐδωκε στέφανον ἅμα ἀνακηρύττειν καὶ ἀφαιρεισθαι καὶ καθιεροῦν ἀλλ', οἶμαι, διὰ τὸ ξενικὸν εἶναι τὸν στέφανον καί ἡ καθιέρωσις γέγνεται, ἵνα μηδεὶς ἀλλοτρίαν εὔνοιαν περὶ πλείονος ποιούμενος τῆς πατρίδος χείρων γένηται τὴν ψυχήν. ἀλλ' οὐκ ἐκεῖνο τὸν ἐν τῇ ἐκκλησίᾳ στέφανον ἀναρρηθέντα οὐδεὶς καθιεροῖ, ἀλλ' ἐξεστι κεκτησθαι, ἵνα μὴ μόνον αὐτὸς, ἀλλὰ καὶ οἱ ἐξ ἐκείνου, ἔχοντες ἐν τῇ οἰκίᾳ τὸ ὑπόμνημα, μηδεποτε κακοὶ τὴν ψυχὴν εἰς τὸν δῆμον γίγνωνται. καὶ διὰ τοῦτο προσέθηκεν ὁ νομοθέτης μὴ κηρύττεσθαι τὸν ἀλλότριον στέφανον ἐν τῷ θεάτρῳ, ἐὰν μὴ ψηφίσηται ὁ δῆμος, ἵν' ἡ πόλις ἡ βουλομένη τινὰ τῶν ὑμετέρων στεφανοῦν πρέσβεις πέμψασα δεῃ τοῦ δήμου, ἵνα κηρυττόμενος μείζω χάριν εἰδῇ τῶν στεφανούντων ὑμῖν, ὅτι κηρῦξαι ἐπετρέψατε. ὅτι δ' ἀληθῆ λέγω, τῶν νόμων αὐτῶν ἀκούσατε.*

2. Ext. (A) (*a*) Supply the ellipsis after *μὴ γὰρ ὅτι*. (*b*) *ἀγεννής*,—derive and explain. (*c*) *κεκτῆσθαι*,—how does this differ from the present in meaning? (*d*) *τῶν στεφανούντων*,—explain this use of the Genitive. (*e*) *μείζω χάριν εἰδῇ ὑμῖν*,—turn this into Latin.

3. Translate :—

(B) *Ὁ δὲ ἦν ὑπόλοιπον αὐτοῖς, Κερσοβλέπτην καὶ τὸν ἐπὶ Θρᾴκης τόπον ἐκδοτον ποιῆσαι, καὶ τοῦτ' ἐπραξαν ἕκτῃ φθίνοντος τοῦ ἐλαφηβολιῶνος, πρὶν ἐπὶ τὴν ὑστέραν ἀπαίρειν πρεσβείαν τὴν ἐπὶ τοὺς ὅρκους Δημοσθένην· ὁ γὰρ μισαλέξανδρος καὶ μισοφίλιππος ὑμῖν οὑτοσὶ ῥήτωρ δὶς ἐπρέσβευσεν ἐν Μακεδονίᾳ, ἑξόν μηδὲ ἅπαξ, ὁ νυνὶ κελεύων τῶν Μακεδόνων καταπτύειν. εἰς δὲ τὴν ἐκκλησίαν, τὴν τῇ ἕκτῃ λέγω, καθεζόμονος βουλευτὴς ὢν ἐκ παρασκευῆς, ἔκδοτον Κερσοβλέπτην μετὰ Φιλοκράτους ἐποίησε. λανθάνει γὰρ ὁ μὲν Φιλοκράτης ν ἐψηφίσματι μετὰ τῶν ἄλλων γραμμάτων παρεγγράψας, ὁ δ' ἐπιψηφίσε Δημοσθένης, ἐν ᾧ γέγραπται, ἀποδοῦναι τοὺς ὅρκους τοῖς πρέσβεσι τοῖς παρὰ Φιλίππου ἐν τῇδε τῇ ἡμέρᾳ τους συνέδρους τῶν συμμάχων.*

4. Ext. (B) (*a*) *ἐπὶ Θρᾴκης*,—show the import of *ἐπὶ* as here used, and illustrate its meaning when used with other cases.

(*b*) *ἕκτῃ θίνοντος τοῦ* 'E. *μηνος*,—what was the date according to our method of reckoning? (*c*) Write a short note on the word *ῥήτωρ*, as used in the political language of Athens. (*d*) *βουλευτὴς ὢν ἐκ παρασκευῆι*,—explain this. How were senators appointed at Athens?

5. Translate:—

(C) *ἐνῆρκται μὲν τὰ κανᾶ, παρέστηκε δὲ τοῖς βωμοῖς τὰ θύματα, μέλλετε δ' τοὺς θεοὺς αἰτεῖν τἀγαθὰ καὶ κοινῆ καὶ ἰδίᾳ. σκοπεῖτε δὴ ποίᾳ φωνῇ, ποίᾳ ψυχῇ ποίοις ὄμμασι, τίνα τόλμαν κτησάμενοι τὰς ἱκεσίας ποιήσεσθε, τούτους παρέντες ἀτιμωρήτους τοὺς ἐναγεῖς καὶ ταῖς ἀραῖς ἐνόχους. οὐ γὰρ δι' αἰνιγμάτων, ἀλλ' ἐναργῶς γέγραπται ἐν τῇ ἀρᾷ κατά τε τῶν ἀσεβησάντων, ἃ χρὴ παθεῖν αὐτοὺς, καὶ κατὰ τῶν ἐπιτρεψάντων, καὶ τελευταῖον ἐν τῇ ἀρᾷ γέγραπται, μηθ' ὁσίως θύσαιεν οἱ μὴ τιμωροῦντες φησὶ τᾷ 'Απόλλωνι μηδὲ τῇ' Αρτέμιδι μηδὲ τῇ Λητοῖ μηδ' 'Αθηνᾷ Προνοίᾳ, μηδὲ δέξαιντο αὐτῶν τὰ ἱερά. τοιαῦτα καὶ πρὸς τούτοις ἕτερα πολλὰ διεξελθόντος ἐμοῦ, ἐπειδή ποτε ἀπηλλάγην καὶ μετέστην ἐκ τοῦ συνεδρίου, ῥαυγὴ πολλὴ καὶ θόρυβος ἦν τῶν 'Αμφικτυόνων, καὶ λόγος ἦν οὐκέτι περὶ τῶν ἀσπίδων, ἃς ἡμεῖς ἀνέθεμεν, ἀλλ' ἤδη περὶ τῆς τῶν 'Αμφισσέων τιμωρίας.*

6. Ext. (C) (*a*) Explain *ἐνῆρκται τὰ κανᾶ*. (*b*) For *Προνοία* there is a variant *Προναία*, translate and explain this. (*c*) *ἐπὶ δίετης ἠβῶσι*,—what interpretations have been given of this?

7. (*a*) Write a note on the Amphictyonic Council, briefly setting forth its composition, functions, powers, etc. (*b*) Describe the composition of the Court before which this speech was delivered: what was the result of the trial?

8. Translate:—

(*a*) ΙΩ. *ἐλελεῦ ἐλελεῦ, ὑπό μ' αὖ σφάκελος*
καὶ φρενοπληγεῖς μανίαι θάλπουσ',
οἴστρου δ' ἀρδις χρίει μ ἄπυρος·
κραδία δὲ φοβῳ φρένα λακτίζει.
τροχοδινεῖται δ' ὄμματ' ἐλίγόην,
ἔξω δὲ δρόμου φέρομαι λύσσης
πνεύματι μάργῳ, γλώσσης ἀκρατής·
θολεροὶ δὲ λόγοι παίουσ' εἰκῆ
στυγνῆς πρὸς κύμασιν ἄτης.

Ext. (*a*) (*a*) *πρὸς κύμασιν ἄτης*:—explain the metaphor. (*b*) With what do you connect *ὑπὸ* in vs. 1st? (*c*) Distinguish between *ἀκρατὴς* and *ἄκρατος* as to etymology and meaning and quantity of the penult.

(*b*) Διὸς δέ τοι
πτηνὸς κύων, δαφοινὸς αἰετὸς λάβρως
διαρταμήσει σώματος μέγα ῥάκος,
ἄκλητος ἕρπων δαιταλεὺς πανήμερος,
μελαινόβρωτον δ' ἦπαρ ἐκθοινήσεται.

Ext. (*b*) Derive δαφοινός, and name interpretations of πανήμερος.

(*c*) καί μοι τὰ μὲν παρόντα μὴ δύρεσθ' ἄχη,
πέδοι δὲ βᾶσαι τὰς προσερπούσας τύχας
ἀκουσαθ', ὡς μάθητε διὰ τέλους τὸ πᾶν.
πείθεσθέ μοι, πείθεσθε, συμπονήσατε
τῷ νῦν μογοῦντι. ταὐτά τοι πλανωμένη
πρὸς ἄλλοτ' ἄλλον πημονὴ προσιζάνει.

Ext. (*c*) (1) Explain the form πέδοι and cite similar forms from Latin. (2) βᾶσαι,—parse. (3) ταὐτά τοι (Dindorf) ταῦτά τοι (Paley,) —distinguish between these variants and translate.

(*d*) τοιαῦτα μὲν δὴ ταῦτ'· ἐνερθε δὲ χθονὸς
κεκρυμμέν' ἀνθρώποισιν ὠφελήματα,
χαλκὸν, σίδηρον, ἄργυρον, χρυσόν τε τίς
φήσειεν ἂν πάροιθεν ἐξευρεῖν ἐμοῦ;
οἶδ' εἰς, σάφ' οἶδα, μὴ μάτην φλῦσαι θέλων.
βραχεῖ δὲ μύθῳ πάντα συλλήβδην μάθε,
πᾶσαι τέχναι βροτοῖσιν ἐκ Προμηθέως.

Ext. (*d*) χαλκὸν, σίδηρον, ἄργυρον χρυσόν τε,—what inferences have been drawn from the order of enumeration?

(*e*) εὐθὺς δὲ μορφὴ καὶ φρένες διάστορφοι
ἦσαν, κεραστὶς δ' ὡς ὁρᾶτ' ὀξυστόμῳ
μύωπι χρισθεῖσ' ἐμμανεῖ σκιρτήμασι
ἦσσον πρὸς εὔποτόν τε Κερχνείας ῥέος
ἀκτήν τε Λέρνης· βουκόλος δὲ γηγενὴς
ἄκρατος ὀργὴν Ἄργος ὠμάστει, πυκνοῖς
ὄσσοις διδορκὼς τοὺς ἐμοὺς κατὰ στίβους.

Ext. (*e*) (1) How was the *persona* of Io represented on the stage? (2) Κερχνείας—ἀκτήν,—what variants occur? (3) With what do you construe τοὺς κατὰ στίβους?

9. (*a*) A note on the geographical descriptions of this Drama, and name its approximate date. (*b*) Describe the opening scene as to geographical situation, stage-accessories, etc. (*c*) How was the *persona* of Prometheus represented? And how many actors were there?

FIRST YEAR—LATIN.

MONDAY, APRIL 4th :—MORNING, 9 TO 12.

Examiner,.....A. J. EATON, PH.D.
Assistant Examiner,.....JOHN L. DAY, B.A.

(Write the answers to (A) and (B) on separate sets of papers.)

(A) VIRGIL, AENEID, BOOK X.

1. (*a*) Translate :

Ipse inter medios, Veneris iustissima cura,
Dardanius caput ecce puer detectus honestum,
qualis gemma, micat, fulvum quae dividit aurum,
aut collo decus aut capiti; vel quale per artem
inclusum buxo aut Oricia terebintho
lucet ebur; fusos cervix cui lactea crinis
accipit et molli subnectit circulus auro.
te quoque magnanimae viderunt, Ismare, gentes
volnera derigere et calamos armare veneno,
Maeonia generose domo, ubi pinguia culta
exercentque viri Pactolusque inrigat auro.

(*b*) To whom does *ipse* (v. 132) refer? (*c*) Account for the grammatical construction of *caput, auro, domo.* (*d*) Write a note on *Pactolus inrigat auro.* (*e*) Scan line 136, remarking on any peculiarities of metre.

(*a* Translate:

tum breviter supera aspectans convexa precatur:
'alma parens Idaea deum, cui Dindyma cordi
turrigeraeque urbis biiugique ad frena leones,
tu mihi nunc pugnae princeps, tu rite propinques
augurium Phrygibusque adsis pede, diva, secundo.'

Interea soror alma monet succedere Lauso
Turnum, qui volucri curru medium secat agmen.
ut vidit socios, 'tempus desistere pugnae:
solus ego in Pallanta feror, soli mihi Pallas
debetur; cuperem ipse parens spectator adesset.'

(*b*) Explain the allusions in vss. 252-4. (*c*) Explain the construction *pugnae* (v. 441), *cuperem* and *adesset.* (*d*) Who was *Lausus*? *Pallas?*

3. (*a* Translate :

cui luno summissa 'quid, o pulcherrime coniunx,
sollicitas aegram et tua tristia iussa timentem?
si mihi, quae quondam fuerat, quamque esse decebat,

vis in amore foret, non hoc mihi namque negares,
omnipotens, quin et pugnae subducere Turnum
et Dauno possem incolumem servare parenti.
nunc pereat Teucrisque pio det sanguine poenas.

sternitur infelix alieno volnere caelumque 781
aspicit et dulcis moriens reminiscitur Argos.
tum pius Aeneas hastam iacit: illa per orbem
aere cavum triplici, per linea terga tribusque
transiit intextum tauris opus imaque sedit
inguine, sed viris haud pertulit.

(*b*) *Foret—negares—possem:* explain these subjunctives according to your rendering. (*c*) Give the construction of *Argos, aere, ima, viris* (*d*) Principal parts of *decebat, pereat, sedit, sternitur.* (*e*) Scan, with comments, lines 781, 782 and 785.

4. (*a*) Give the meaning and derivation of *bipatens, fatidicus, praeceps silvicola, expers, vesanus.* (*b*) Decline *aether.* (*c*) What constructions may *misceo* and its compounds take? (*d*) *Tempus desistere pugnae:* explain the construction of *pugnae.* (*e*) Distinguish malo, mălo; canens, cănens; pedes, pĕdes; quis, quĭs; socium, sŏcium. (*f*) What is *synapheia?*

5. (*a*) Who was *Mezentius? Orion? Aegaeon?* (*b*) Who were the *Furies?* the *Fates?* (*c*) Remark on the meanings of *pius.* (*d*) Give the geographical position of *Ardea, Caere, Ida, Mantua, Vesulus.*

6. [The following extracts may be translated by those who have read, in addition to the regular work, the first book of the Georgics].

atque haec ut certis possemus discere signis,
aestusque pluviasque et agentes frigora ventos,
ipse Pater statuit, quid menstrua luna moneret,
quo signo caderent Austri, quid saepe videntes
agricolae proprius stabulis armenta tenerent.

ille etiam exstincto miseratus Caesare Romam,
cum caput obscura nitidum ferrugine texit,
impiaque aeternam timuerunt saecula noctem
tempore quamquam illo tellus quoque et aequora ponti
obscenaeque canes importunaeque volucres
signa dabant. quotiens Cyclopum effervere in agros
vidimus undantem ruptis fornacibus Aetnam,
flammarumque globulique factaque volvere Saxa!
armorum sonitum toto Germania caelo
audiit, in solitis tremuerunt motibus Alpes.

(B) Latin Composition.

1. Translate into English:

Ubi circumiecta multitudine hominum totis moenibus undique in murum lapides iaci *coepti sunt*, murusque *defensoribus* nudatus est, testudine facta *portas* succedunt murumque subruunt. Quod tum facile fiebat. Nam cum tanta multitudo lapides ac tela *conicerent*, in muro *consistendi* potestas erat nulli.

2. State carefully the Syntax of *italicized* words in the above passage.

3. Write a note on the Gerund and Gerundive constructions.

4. Translate:

(*a*) The Belgae were indignant that an army of the Romans was wintering and getting a foothold in Gaul.

(*b*) They informed him that the Germans were in arms, and that even their own brothers and kinsmen could not be kept by them from uniting with the Belgae.

(*c*) Caesar shewed Divitiacus how greatly it concerned the state to keep the enemy's forces from uniting.

(*d*) They threw so many stones and javelins that no one was able to stand on the wall.

(*e*) It has been shewn before that the Remi had been very useful to Caesar for carrying on the war.

5. Translate:

When Caesar had heard what the envoys said, he determined to destroy the bridge, and cut off supplies from the enemy in order that they might be forced to subjection. Their camp-fires could easily be seen from our tents: for they were less than two miles distant. When the Belgae saw that the Roman army did not move forward across the marsh, they immediately dispersed. Some cavalry skirmishes brought the war to a close.

FIRST YEAR.

MOMMSEN: *Roman History*, (*Abridged*). BENDER: *Roman Literature.*

MONDAY, APRIL 4TH :—AFTERNOON, 2 TO 5.

Examiner,..... ..... A.J. EATON, PH.D.
Assistant Examiner,..... JOHN L DAY, B.A.

(Write the answers to A and B on separate sets of papers.)

(A)

(Answer *any* seven of the following ten questions.)

1. (*a*) Discuss, from the standpoint of language and antiquities, the origin of the Greeks and Italians from the Indo-Germanic family. (*b*) Contrast these nations in their moral, social, political and religious development.

2. Name the three primitive stocks from which Italy was populated Enlarge upon one of them.

3. A map of the outlying district of Rome.

4. The origin of the Senate; its constitution and powers.

5 Outline the rise of Rome to supremacy in Latium.

6. Contrast the new Consular office (B.C. 509) with the old Royal power.

7. Explain the Roman law of debt. To what troubles did it give rise? Trace the various steps by which the condition of the *Plebs* was ameliorated. (Give dates of laws).

8. The substance of Mommsen's remarks on the Celts.

9. With what tribes did Rome come into contact in her advance to the Supreme power in Italy? Show briefly how this was effected.

10. Notes on the following: *Pontifex Maximus: Quaestor: Tribuni Plebis: Servius Tullius: Beneventum.*

(B)

1. What is the predominant feature of Roman literature of the Third Period?

2. Name the chief orators, historians, and poets of the Ciceronian age.

3. What influence had the establishment of the Empire on literary activity? Name the most prominent representatives in particular departments under Augustus.

4. Describe the *Mime* and *Pantomime*.

5. Give a brief account of the life of Virgil and his character.

6. (*a*) What several causes led Virgil to undertake the *Aeneis?* (*b*) Give an outline of the story. (*c*) What are considered the finest parts of the poem? (*d*) What mainly caused its great fame among the Romans?

INTERMEDIATE EXAMINATION.

LATIN.—LIVY, BOOK XXI.—HORACE, EPISTLE, BK. I.

MONDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiners,..... { W. CROCKET, M.A. / A. J. EATON, PH.D.

(Write I. and II. on separate sets of papers.)

I.

1. Translate:—

(A) Inde oppugnatio eos aliquanto atrocior quam ante adorta est, nec qua primum aut potissimum parte ferrent opem, cum omnia variis clamoribus streperent, satis scire poterant. Ipse Hannibal, qua turris mobilis, omnia munimenta urbis superans altitudine, agebatur, hortator aderat. Quae cum admota, catapultis ballistisque per omnia tabulata dispositis muros defensoribus nudasset, tum Hannibal occasionem ratus, quingentos ferme Afros cum dolabris ad subruendum ab imo murum mittit; nec era, difficile opus, quod caementa non calce durata erant, sed interlita luto, structurae antiquae genere. Itaque latius, quam qua caederetur, ruebat, perque patentia ruinis agmina armatorum in urbem vadebant.

(B) Itaque Hannibal, postquam ipsi sententia stetit pergere ire atque Italiam petere, advocata contione, varie militum versat animos castigando adhortandoque: Mirari se, quinam pectora semper impavida repens terror invaserit. Per tot annos vincentes eos stipendia facere neque ante Hispania excessisse, quam omnes gentesque et terrae, quas duo diversa maria amplectantur, Carthaginiensium essent. Indignatos deinde, quod, quicumque Saguntum obsedissent, velut ob noxam sibi dedi postularet populus Romanus, Hiberum traiecisse ad delendum nomen Romanorum liberandumque orbem terrarum. Tum nemini visum id longum, cum ab occasu solis ad exortus intenderent iter; nunc, postquam multo maiorem partem itineris emensam cernant, in conspectu Alpes habeant, quarum alterum latus Italiae sit, in ipsis portis hostium fatigatos subsistere, quid Alpes aliud esse credentes quam montium altitudines? Fingerent altiores Pyrenaei iugis; nullas profecto terras caelum contingere nec inexsuperabiles humano generi esse.

2. (*a*) Describe the *catapulta*, *ballista* and *dolabra*. (*b*) Derive *caementa*, *contio*, *stipendium*. (*c*) State fully the grammatical construction of *ferrent*, *streperent*, *defensoribus*. (*d*) Principal parts of *admota*, *ratus*, *interlita*, *caederetur*, *vadebant*.

3. Write out in full 1. (B) *Mirari se..... .....generi esse*, changing it into *Direct Narration*, and in a note below account for each change introduced.

4. Translate (and discuss grammatically *italicized* forms) :—

(*a*) *victi amplius ducenti* ceciderunt.

(*b*) mediis campis *Insulae* nomen inditum.

(*c*) tunc ad extremum periculum ac *prope* perniciem *ventum est.*

(*d*) invicta acies, si aequo *dimicaretur.* (Supply any ellipsis in this sentence.)

(*e*) *Latum* inde, vellent inberent bellum indici. (What forms of direct discourse do *vellent* and *inherent* represent?)

(*f*) Octavo mense, *quam coeptum oppugnari* captum Saguntum.

(*g*) Quadraginta milia *peditum scripta* sunt, quatuor milia et quadringenti *equites.* (Write out the sentence, changing the construction of *scripta* and *equites* only, without altering the meaning.)

5. (*a*) Distinguish in meaning *vis, robur; fere, ferme, paene, prope; obsidio, oppugnatio.* (*b*) Derive *excidium* and *promunturium.*

6. Write on *any three* of the following topics:

(*a*) Life of Livy and his writings.

(*b*) Defects and excellences of his work.

(*c*) Livy's authorities.

(*d*) Hannibal's route over the Alps.

(*e*) Illustrate the chief peculiarities of Livy's style.

7. [The translation of this passage is intended for those only who have read the additional work in Livy.]

Erat in medio rivus praealtis utrinque clausus ripis et circa obsitus palustribus herbis et quibus inculta ferme vestiuntur, virgultis vepribusque. Quem ubi equites quoque tegendo satis latebrosum locum circumvectus ipse oculis perlustravit, "Hic erit locus" Magoni fratri ait, "quem teneas. Delige centenos viros ex omni pedite atque equite, cum quibus ad me vigilia prima venias; nunc corpora curare tempus est." Ita praetorium missum. Mox cum delectis Mago aderat. "Robora virorum cerno" inquit Hannibal; "sed uti numero etiam, non animis modo valeatis, singulis vobis novenos ex turmis manipulisque vestri similes eligite. Mago locum monstrabit, quem insideatis; hostem caecum ad has belli artes habetis"

II.

8. Translate:

(*a*) Quod si me populus Romanus forte roget, cur
non, ut porticibus, sic iudiciis fruar isdem,
nec sequar aut fugiam, quae diligit ipse vel odit:
olim quod vulpes aegroto cauta leoni
respondit, referam: Quia me vestigia terrent,
omnia te adversum spectantia, nulla retrorsum.

(*b*) Nestor componere litis
inter Peliden festinat et inter Atriden :
hunc amor, ira quidem communiter urit utrumque.
Quicquid delirant reges, plectuntur Achivi.
Seditione, dolis, scelere atque libidine et ira
Iliacos intra muros peccatur et extra.

(*c*) Chlamydes Lucullus, ut aiunt,
si posset centum scaenae praebere rogatus,
'Qui possum tot?' ait, 'Tamen et quaeram et quot habebo
mittam.' Post paullo scribit sibi milia quinque
esse domi chlamydum ; partem vel tolleret omnes.
Exilis domus est, ubi non et multa supersunt
et dominum fallunt et prosunt furibus !

9. (*a*) What is the construction of *posset, qui, tolleret* (ext. c). (*b*) Give the principal parts of *plectuntur*. (*c*) Who was *Nestor? Lucullus?* (*d*) Scan the first three lines of Ext. C.

10. Explain the main points to be noticed in the following constructions :—

(*a*) coronari contemnat olympia.
(*b*) fruges consumere nati.
(*c*) nil conscire sibi.
(*d*) insanire putas sollemnia me.
(*e*) quid maris extremos Arabas ditantis et Indos.
Indicra quid plausus et amici dona Quiritis.

11. Give the etymology, with meaning, of *Camena, momentis, cheragra, sodes, delirant.*

12. Write explanatory notes on (*a*) *subucula, tunica, chlamydes ;* (*b*) *nil admirari ;* (*c*) *Caerite cera digni ;* (*d*) *spectatum satis et donatum iam rude ;* (*e*) *haec Janus summus ab imo ;* (*f*) *Porticus Agrippae ;* (*g*) *in Aristippi furtim praecepta relabor.*

INTERMEDIATE EXAMINATION.

LATIN COMPOSITION AND TRANSLATION AT SIGHT.

MONDAY, APRIL 4TH :—AFTERNOON, 2 TO 5.

Examiners, ... { W. CROCKET, M.A. / A. J. EATON, PH.D.

1. Translate (at sight) :

Coriolanus, maximi vir animi, et altissimi consilii, optimeque de republica meritus, iniquissimae damnationis ruina prostratus, ad Volscos, infestos tunc Romanis, confugit. Magno ubique pretio virtus aestimatur.

Itaque, quo latebras quaesitum venerat, ibi brevi summum adeptus est imperium: evenitque ut eum quem pro se salutarem imperatorem cives habere noluerant, paene pestiferum adversus se ducem experirentur. Frequenter enim fusis exercitibus nostris, victoriarum suarum gradibus, aditum iuxta moenia urbis Volsco militi struxit. Missi ad eum deprecandum legati nihil profecerunt. Missi deinde sacerdotes, cum infulis, aeque sine effectu redierunt Stupebat senatus: trepidabat populus: viri pariter ac mulieres exitium imminens lamentabantur.

Tunc Veturia, Coriolani mater, Volumniam uxorem eius, et liberos, secum trahens, castra Volscorum petiit. Quam ubi filius adspexit, "Expugnasti," inquit "et vicisti iram meam, patria, precibus huius admotis; cuius amori te, quamvis merito mihi invisam, dono." Continuoque Romanum agrum hostilibus armis liberavit.

2. Translate into Latin:

Meantime, Hannibal had been besieging the city with the greatest energy; he had surrounded it with his engines, and battering-rams were being plied against the walls. The people in the town all bravely resisted his attacks, and often made sallies as far as the enemy's advance guards, and in one of these skirmishes Hannibal was severely wounded in the thigh.

For a few days, there was cessation of hostilities while the general's wound was healing, and then the war began anew the more fiercely. When a long stretch of wall with three towers in succession had been battered down with the engines, as if the fortifications had protected both armies alike, both sides attempted to rush through the breach. Here they fought with varying success.

THIRD YEAR.

LATIN.—PLINY, SELECT LETTERS.

MONDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner, ... A. J. EATON, M.A., PH.D.

1. Translate:

Heus tu promittis ad cenam nec venis! Dicetur ius: ad assem inpendium reddes, nec id modicum. Paratae erant lactucae singulae, cochleae ternae, ova bina, alica cum mulso et nive (nam hanc quoque computabis, immo hanc in primis, quae periit in ferculo), olivae, betacei, cucurbitae, bulbi, alia mille non minus lauta. Audisses comoedos vel lectorem vel lyristen vel, quae mea liberalitas, omnes. Ad tu apud nescio quem ostrea, vulvas, echinos, Gaditanas maluisti. Dabis poenas, non dico quas. Dure fecisti: invidisti, nescio an tibi, certe mihi, sed tamen et tibi. Quantum

nos lusissemus, risissemus, studuissemus! Potes apparatius cenare apud multos, nusquam hilarius simplicius incautius. In summa, experire, et nis postea te aliis potius excusaveris, mihi semper excusa. Vale.

2. (*a*) Supply the ellipsis after *promittis*. (*b*) Derive *lactucae*, *alica*. (*c*) Construction of *mulso*? (*d*) *invidisti*: remark on the construction of this verb in Pliny. (*e*) Write a note on *quae mea liberalitas*.

3. Translate:

Egrediebatur domo: accipit codicillos Rectinae Tasci inminenti periculo exterritae (nam villa eius subiacebat, nec ulla nisi navibus fuga): ut se tanto discrimini eriperet orabat. Vertit ille consilium et quod studioso animo inchoaverat obit maximo. Deducit quadriremes, ascendit ipse, non Rectinae modo sed multis (erat enim frequens amoenitas orae) laturus auxilium. Properat illuc unde alii fugiunt, rectumque cursum, recta gubernacula in periculum tenet, adeo solutus metu ut omnis illius mali motus, omnis figuras, ut deprenderat oculis, dictaret enotaretque. Iam navibus cinis incidebat, quo propius accederent, calidior et densior, iam pumices etiam nigrique et ambusti et fracti igne lapides, iam vadum subitum ruinaque montis litora obstantia.

4. (*a*) Explain the construction of *Tasci*, *discrimini*, *accederent*. (*b*) Give the geographical position of *Mount Vesuvius*, *Stabiae*, *Pompeii*. (*c*) What was the date of the eruption described in this letter?

5. Translate:

Interim *in* iis qui ad me tamquam Christiani deferebantur hunc sum secutus modum. Interrogavi ipsos an essent Christiani. Confitentes iterum ac tertio interrogavi, supplicium minatus: perseverantes duci iussi. Neque enim dubitabam, qualecumque esset quod faterentur, pertinaciam certe et inflexibilem obstinationem debere puniri. Fuerunt alii similis amentiae quos, quia cives Romani erant, adnotavi in urbem remittendos. Mox ipso tractatu, ut fieri solet, diffundente se crimine plures species inciderunt. Propositus est libellus sine auctore multorum nomina continens. Qui negabant esse se Christianos aut fuisse, cum praeeunte me deos appellarent et imagini tuae, quam propter hoc iusseram cum simulacris numinum adferri, ture ac vino supplicarent, praeterea male dicerent Christo, quorum nihil posse cogi dicuntur qui sunt re vera Christiani, dimittendos esse putavi.

6. (*a*) *nihil cogi*: how is this construction to be explained? Quote a similar passage from Livy or Virgil. (*b*) Give the grammatical construction of *esset*, *faterentur*, *amentiae*, *imagini*, *Christo*. (*c*) Supply the ellipses in *perseverantes duci iussi*.

7. Derive and define *praevaricatio*, *cavaedium*, *cryptoporticus*, *scrupulosa*, *emacitas*, *futilis*.

8. Write short notes on—

(*a*) sed in toga negotiisque versatur.

(*b*) annum tertium et octogensimum excessit.

(*c*) nam his supremus felicitati eius cumulus accessit.

(*d*) illa ergo reprimanda, illa quasi in ordinem redigenda est.

(*e*) Villa usibus capax, non sumptuosa tutela.

(*f*) ne multa, coegit mulierem aperire tabulas ac sibi tunicas quas erat induta legare.

(*g*) consuluit quam cito sestertium sescenties inpleturus esset.

(*h*) Erat φιλόκαλος usque ad emacitatis reprehensionem.

(*i*) Vix consideramus, et nox, qualis in locis clausis lumine extincto.

9. Write on the following subjects: (*a*) *Suicide among the Romans*: (*b*) *Declamation*: (*c*) *Verginius*: (*d*) *Letter-writing*.

10. Translate into Latin:

Friendship, says Cicero, can only exist between good men. And, the Stoics add, no one can be good except the wise. By wisdom, moreover, they understand not that which is really found in every day life, but a fancied perfection (*perfectio*) that no human being ever can attain to. But what is friendship? It is nothing less than harmony of tastes and opinions united with mutual affection. A friend is, to a certain extent, one's second self. The enjoyment of good fortune is made greater by his joy; the burden of adversity is lightened by his love. Through our friends, though absent, we are still present; by their help though weak we are strong; and even when dead, we still live through them.

B.A. ORDINARY EXAMINATION.

LATIN.— { TACITUS.—ANNALS, BOOK I.
JUVENAL.—SATIRES, VIII. & XIII.

MONDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner,..... .....Rev. GEORGE CORNISH, M.A., LL.D.

1. Translate:—

(A) tum consultatum de honoribus; ex quis qui maxime insignes visi, ut porta triumphali duceretur funus, Gallus Asinius, ut legum latarum tituli, victarum ab eo gentium vocabula anteferrentur, L. Arruntius censuere. addebat Messalla Valerius renovandum per annos sacramentum in nomen Tiberii; interrogatusque a Tiberio num se mandante eam sententiam prompsisset, sponte dixisse respondit, neque in iis quae ad rem publicam pertinerent consilio nisi suo usurum, vel cum periculo offensionis: ea sola species adulandi supererat. conclamant patres corpus ad rogum umeris senatorum ferendum. remisit Caesar adroganti moderatione, populumque edicto monuit ne, ut quondam nimiis

studiis funus divi Iulii turbassent, ita Augustum in foro potius quam in campo Martis, sede destinata, cremari vellent. die funeris milites velut praesidio stetere, multum inridentibus qui ipsi viderant quique a parentibus acceperant diem illum crudi adhuc servitii et libertatis inprospere repetitae, cum occisus dictator Caesar aliis pessimum, aliis pulcherrimum facinus videretur: nunc senem principem, longa potentia, provisis etiam heredum in rem publicam opibus, auxilio scilicet militari tuendum, ut sepultura eius quieta foret.

(B) At in Chaucis coeptavere seditionem praesidium agitantes vexillarii discordium legionum et praesenti duorum militum supplicio paulum repressi sunt. iusserat id M'. Ennius castrorum praefectus, bono magis exemplo quam concesso iure. deinde intumescente motu profugus repertusque, postquam intutae latebrae, praesidium ab audacia mutuatur: non praefectum ab iis, sed Germanicum ducem, sed Tiberium imperatorem violari. simul exterritis qui obstiterant, raptum vexillum ad ripam vertit, et si quis agmine decessisset, pro desertore fore clamitans, reduxit in hiberna turbidos et nihil ausos.

(C) Forte equus abruptis vinculis vagus et clamore territus quosdam occurrentium obturbavit. tanta inde consternatio inrupisse Germanos credentium, ut cuncti ruerent ad portas, quarum decumana maxime petebatur, aversa hosti et fugientibus tutior. Caecina comperto vanam esse formidinem, cum tamen neque auctoritate neque precibus, ne manu quidem obsistere aut retinere militem quiret, proiectus in limine portae miseratione demum, quia per corpus legati eundum erat, clausit viam: simul tribuni et centuriones falsum pavorem esse docuerunt.

2. Ext. (A) Explain the following:—(*a*) *Porta triumphali.* (*b*) *Remisit:*—What interpretations may be given of this, and which is preferable? (*c*) *Occisus dictator Caesar:*—What common usage of the language is here exemplified? Ext. (B) (*d*) *Praesidium agitantes:*—explain. (*e*) *Vexillarii:*—derive and explain the meaning of this term. (*f*) *Bono exemplo * * concesso jure:*—Distinguish between the cases used. (*g*) *Et mihil:*—to what equivalent? Ext. (C) (*h*) *Cuncti:*—derive and distinguish from *omnes.* (*i*) *Decumana * * aversa hosti:*—Explain this use of the Dative; why *decumana?*

3. Write short notes on the following reference:—(1) Libri Sibyllini. (2) Quo loco censebis? (3) Majestatis postulavit. (4) Triumphalia insignia. (5) Caligulam. (6) Quod virgas et secures et togam viderint. (7) Apud aram Ubiorum. (8) Sodalium Augustalium. (9) Pergere ad Treveros et externae fidei. (10) Gener invisus inimici soceri.

4. Translate the following, explaining the constructions:—(*a*) Nullius flagitii compertum. (*b*) Abolendæ infamiæ. (*c*) Particeps secretorum. (*d*) Extortum invito senatu. (*e*) Vetus operis ac laboris. (*f*) Centurionem morti deposit.

5. Translate :—

(*a*) Prima mihi debes animi bona. Sanctus haberi
iustitiæque tenax factis dictisque mereris?
agnosco procerem. Salve, Gaetulice, seu tu,
Silanus, quocumque alio de sanguine, rarus
civis et egregius patriæ contingis ovanti.
Exclamare libet, populus quod clamat Osiri
invento. Quis enim generosum dixerit hunc qui
indignus genere est, praeclaro nomine tantum
insignis?

(*a*) Derive *procerem*. (*b*) *Populus quod clamat* :—Explain. (*c*) *Generosum* :—give the Greek for this.

(*b*) Nil ibi maiorum respectus, gratia nulla
umbrarum : dominos pretiis mutare iubentur
exiguis, trito que trahunt epiredia collo
segnipedes, dignique molam versare Nepotis.
Ergo ut miremur te, non tua, primum aliquid da,
quod possim titulis incidere praeter honores,
quos illis damus et dedimus quibus omnia debes.

(*a*) Give different interpretations of *ibi*. (*b*) *pretiis exiguis* :—what case, and why? (*c*) *epiredia* :—Give the derivation. (*d*) *digni versare* :—comment on this construction. (*e*) *Nepotis* or *nepotes?*

(*c*) Interea, dum lanatas torvumque iuvencum
more Numae caedit Iovis ante altaria, iurat
solam Eponam et facies olida ad praesepia pictas.
Sed quum pervigiles placet instaurare popinas;
obvius adsiduo Syrophoenix udus amomo
currit, Idumaeae Syrophoenix incola portae,
hospitis affectu dominum regemque salutat,
et cum venali Cyane succincta lagena.

(*a*) For *torvum* there is a variant *robum* :—distinguish, and show that the text is preferable. (*b*) *Eponam* :—what derivations have been suggested? (*c*) *Idumaeae portae* :—what explanations have been given of this, and which is to be preferred?

(*d*) Ponamus nimios gemitus: flagrantior æquo
Non debet dolor esse viri, nec vulnere major.
Tu quamvis levium minimam exiguamque malorum
Particulam vix ferre potes, spumantibus ardens
Visceribus, sacrum tibi quod non reddat amicus
Depositum? stupet hæc, qui jam post terga reliquit
Sexaginta annos, Fonteio Consule natus?
An nihil in melius tot rerum proficis usu?

(*a*) *Qui reliquit*** Fonteio Consule natus* :—Who is the subject of this phrase? (*b*) *Proficis usu* :—give variants.

(*c*) Nos hominum Divumque fidem clamore ciemus,
Quanto Fæsidium laudat vocalis agentem
Sportula. Dic, senior bulla dignissime, nescis
Quas habeat Veneres aliena pecunia? nescis
Quem tua simplicitas risum vulgo moveat, quum
Exigis a quoquam ne pejeret et putet ullis
Esse aliquod numen templis aræque rubenti?

Vocalis sportula; bulla dignissime :—Explain the references.

6. Give the exact meaning and derivation, where you can, of the following:—stemmata, funestat, nanum, nobilis, viduas, naulum, conchylia, ergastula, alapas, triscurria, arcana, gradivus, hostia, mobilis. Name derivations in English from any.

7. What is the subject of Juvenal's Satire VIII.?

B.A. ORDINARY EXAMINATION.

GREEK AND ROMAN HISTORY AND LATIN PROSE COMPOSITION.

MONDAY, APRIL 4TH:—AFTERNOON, 2 TO 5.

Examiner, ...REV. GEORGE CORNISH, M.A., LL.D.

A.

1. Sketch the general objects and results of the Expedition of the Ten Thousand.

2. What causes led to the Theban Supremacy?

3. Describe geographically, illustrating by a map if you can, the Chalcidic Peninsula, and point out its maritime and political importance and value.

4. Give an account of the events and pretexts which led to Philip's interference in the general affairs of Greece.

(B)

1. Note the steps by which Octavius gained supreme power, and describe the general policy and administration, domestic and foreign.

2. Describe the character of Tiberius as represented by Tacitus. Is it an impartial characterization?

3. Name, giving dates, and describe generally, the three successors of Tiberius.

4. One year saw four Emperors successively on the throne;—name the year and the Emperors.

5. A short account of the Emperors of the Flavian house.

(C) Translate into Latin:—

When Alexander had conquered Darius in the battle of Issus, he sent messengers to the Phoenician cities to inform them of his victory, and at the same time to tell them that he was now their King. And they all replied to this, that they would do whatever he wished. Then he sent a message to Tyre to announce that he would himself come into their city to offer sacrifices to Hercules. But the Tyrians replied that this could not be done without ruin to their liberty, and that they would not receive a foreign king within their walls. So Alexander declared war against Tyre. Now the city was situated on an island about half a mile distant from the land; since, therefore, Alexander had no ships, he began to build a causeway through the sea. Then the Tyrians brought up against it ships filled with logs and pitch, and set on fire, so that the wood which held together the whole was burnt up. Then he asked the other cities of Phoenicia to supply him with a fleet with which to repel the attacks of the Tyrians. And so, having finished the causeway, and made a breach in the wall with his engines, he took the city by assault.

B.A. EXAMINATIONS FOR HONOURS IN CLASSICS.

I. GREEK PROSE WRITERS.

Examiner, ...Rev. George Cornish, M.A., LL.D.

1. Translate (adding an explanatory note where you deem it necessary in any of the extt. given below):—

(A) Herodotus (*a*) Book VIII., chaps. 35 and 36. (*b*) Book IX., chap. 107.

2. Parse carefully the following words, giving Attic equivalents of such as are not Attic:—*ὁρμέατο, ἀπέργοντες, ἐνέπρησαν, ἀποσχισθέντες, ἀποδέξαιεν, ἠπίστατο, οἰκίαισι, ἀτίκατο, κατιστεῶτες, ἔα, φάς, ἀνηνείκαντο.*

3. (*a*) Explain the following:—*ὑακίνθια, κρησφύγετον, τὸν λόχον τὸν Πιτανήτην, γενομένης λέσχης, τοὺς ἱρένας ἐθαψαν.* (*b*) *ἐπιστάμενοι τὰ Δακεδαιμονίων φρονήματα, ὡς ἄλλα φρονεόντων καὶ ἄλλα λεγόντων*:—to

what extent was this imputation of double-dealing on the part of the Lacedemonians justified? Cite parallel instances of such an imputation in ancient and modern times. (*c*) *ἁρπάζει μέσον* :—express this in Latin.

4. (B) Thucydides (*a*) Book VI., ch. 80. (*b*) Book VII., chap. 41.

5. Ext. (A) (*a*) Supply the ellipsis with *ἀθρόους ὄντας* and *ἰέναι*, severally, and show the construction; (*b*) *προμηθίαν—προθυμίαν* :—Distinguish between these readings. (*c*) *βοηθεῖν*,—construe. (*d*) *οὐκ ἄλλον τινα ἀθλον*,—note the solecism. (*e*) *κἂν*,—what does the particle here qualify? (*f*) *μὴ ἂν γενομένην*,—why not *οὐ*?

6. *αἱ κεραίαι * * * δελφινοφόροι* : explain the construction and use of these. Explain also in chap. 40,—*ἐς τοὺς ταρσοὺς ὑποπίπτοντες. ἐς τὰ πλάγια παραπλέοντες.* In ch. 36,—*τὰς ἐπωτίδας.* Ib. *ταῖς ἐμβολαῖς—τοῖς ἐμβόλοις.* So in 40,—*ἐμβόλων—ἐμβολῶν*,—variant :—what is the difference in meaning?

7. Translate :—Xenophon, Hellenics;—(*a*) Bk. I., chap. 4, §§ 13-17, inclusive. (*b*) Bk. II., chap. 3, §§ 30-31.

8. (*a*) *τὸν Ἀλκιβιάδην*,—what is the import of the article as here used?

(*b*) Write short notes explanatory of the references, personal or political, to Alcibiades in this extract.

(*c*) *κόθορνος*– what does Aristophanes say of this man? Cicero thought well of him;—on what grounds?

(*d*) Translate, Schol., Aristoph., Ran. 47 :—*ὁ κόθορνος εἰς ἀμφοτέρους τοὺς πόδας ἁρμόζει, ἔνθεν καὶ Θηραμένης ἐλέγετο ὅτι τοῖς καιροῖς καθομιλεῖν δύναται· οἱ δὲ, ὅτι ἀνδράσι καὶ γυναιξὶν ἁρμόττει.* Ὁ δὲ Ξενοφῶν ἐν Ἑλληνικοῖς *ἀμφοτέροις τοῖς ποσὶν ἁρμόζειν αὐτὸν φησιν.*

B.A. HONOURS.

II. GREEK PROSE WRITERS.

Examiner,..... Rev. George Cornish, M.A., LL.D.

1. Translate, adding an explanatory note where you deem it necessary :—

(A) Demosthenes, De Corona (Ed. Tanchnitz) (*a*) page 248, *ὑμεῖς-τοίνυν * * * γενναίως.* (*b*) p. 305, *τί δὲ μεῖζον * * * εὑρήσεις.*

2. Brief notes on the political references of ext. (*a*), and on the personal references to Æschines in (*b*).

3. (*a*) Translate, with explanatory notes, the following:—Ἐπὶ Μνησιφίλου ἄρχοντος, συγκλήτου ἐκκλησίας ὑπὸ στρατηγῶν γενομένην καὶ Πρυτάνεων καὶ βουλῆς γνώμῃ, Μαιμακτηριῶνος δεκάτῃ ἀπίοντος, Καλλισθένης Ἐτεονίκου Φαληρεὺς εἶπε. (*b*) Translate the following extract:—Δεδόχθαι τῷ δάμῳ τῷ Βυζαντίων καὶ Περινθίων Ἀθαναίοις δόμεν ἐπιγαμίαν πολιτείαν ἔγκτασιν γᾶς καὶ οἰκιᾶν, προεδρίαν ἐν τοῖς ἀγῶσι, πόθοδον ποτὶ τὰν βωλὰν καὶ τὸν δᾶμον πράτοις μετὰ τὰ ἱερά, καὶ τοῖς κατοικέειν ἐθέλουσι τὰν πόλιν ἀλειτουργήτοις ἦμεν πασᾶν τᾶν λειτουργιᾶν· (*c*) Name the dialect of this extract, and state in what districts of Greece it was used.

4. Translate:—

(B) Æschines, Contra Ctesiphontem.—(*a*) (Ed. Teubner) §§ 161-162, and (*b*) §§ 222-223.

5. Ext. (*a*) τοῦ νεανίσκου,—to whom is the reference, and what was his age at this time. οἱ πάραλοι, explain. ἐν τῷ συνεδρίῳ,—to what body does this refer?

6. Ext. (*b*) Give an account of the reforms of the Trierarchy attempted by Demosthenes. What countercharge was brought against Æschines by Demosthenes in connection with this matter? As regards these charges and countercharges of bribery and peculation on the part of these two men, to which side is credit to be given?

7. Translate:—

(F) Aristotle, The Poetics:—

(*a*) ὅθεν καὶ δράματα καλεῖσθαί τινες αὐτά φασιν, ὅτι μιμοῦνται δρῶν τας· διὸ καὶ ἀντιποιοῦνται τῆς τε τραγῳδίας καὶ τῆς κωμῳδίας οἱ Δωρεῖς· τῆς μὲν γὰρ κωμῳδίας οἱ Μεγαρεῖς, (οἵ τε ἐνταῦθα ὡς ἐπὶ τῆς παῤ αὐτοῖς δημοκρατίας γενομένης καὶ οἱ ἐκ Σικελίας, ἐκεῖθεν γὰρ ἦν Ἐπίχαρμος ὁ ποιητὴς πολλῷ πρότερος ὢν Χιωνίδου καὶ Μάγνητος), καὶ τῆς τραγῳδίας ἔνιοι τῶν ἐν Πελοποννήσῳ, ποιούμενοι τὰ ὀνόματα σημεῖον· οὗτοι μὲν γὰρ κώμας τὰς περιοικίδας καλεῖν φασίν, Ἀθηναῖοι δὲ δήμους, ὡς κωμῳδοὺς οὐκ ἀπὸ τοῦ κωμαζειν λεχθέντας, ἀλλ' ἀ τῇ κατὰ κώμας πλάνῃ ἀτιμαζομένους ἐκ τοῦ ἄστεος, καὶ τὸ ποιεῖν αὐτοὶ μὲν δρᾶν, Ἀθηναίους δὲ πράττειν προσαγορεύειν. περὶ μὲν οὖν τῶν διαφορῶν καὶ πόσαι καὶ τίνες τῆς μιμήσεως εἰρήσθω ταῦτα.

(*b*) ὀνόματος δὲ εἶδη τὸ μὲν ἁπλοῦν, ἁπλοῦν δὲ λέγω ὃ μὴ ἐκ σημαινόντων σύγκειται, οἷον γῆ, τὸ δὲ διπλοῦν. τούτου δὲ τὸ μὲν ἐκ σημαινοντος

καὶ ἀσήμου, πλὴν οὐκ ἐν τῷ ὀνόματι σημαίνοντος καὶ ἀσήμου. τὸ δὲ ἐκ σημαινόντων συγκεῖται. εἰη δ' ἂν καὶ τριπλοῦν καὶ τετραπλοῦν ὄνομα καὶ πολλαπλοῦν, οἷον τὰ πολλὰ τῶν μεγαλείων, ὧν Ερμοκαϊκόξανθος. ἅπαν δὲ ὄνομά ἐστιν ἢ κύριον ἢ μεταφορὰ ἢ κόσμος ἢ πεποιημένον ἢ ἐπεκτεταμένον ἢ ὑφῃρημένον. λέγω δὲ κύριον μὲν ᾧ ἕκαστοι, γλῶτταν δὲ ᾧ ἕτεροι, ὥστε φανερὸν ὅτι καὶ γλῶτταν καὶ κύριον εἶναι δυνατὸν τὸ αὐτό, μὴ τοῖς αὐτοῖς δέ· τὸ γὰρ σίγυνον Κυπρίοις μὲν κύριον, ἡμῖν δὲ γλῶττα. μεταφορὰ δέ ἐστιν ὀνόματος ἀλλοτρίου ἐπιφορὰ ἢ ἀπὸ τοῦ γένους ἐπὶ εἶδος, ἢ ἀπὸ τοῦ εἴδους ἐπὶ τὸ γένος, ἢ ἀπὸ τοῦ εἴδους ἐπὶ εἶδος, ἢ κατὰ τὸ ἀνάλογον.

8. (*a*) Distinguish between ἡ ποιητικὴ and ἡ πρακτική. (*b*) Define the following terms, giving the etymology where you can :—ἠπιποιία, οἱ δὲ δια συνηθείας, σχηματιζομένων ῥυθμῶν, ῥυθμὸς καὶ μέλος καὶ μέτρον, ψόγους, ὕμνους, ἐπεισόδιον. (*c*) Note and comment on the chief points in Aristotle's definition of Tragedy. (*d*) Write a short account of this Treatise, pointing out in what respects it is redundant or defective, and naming commentators and editors.

B.A. HONOURS.

III. GREEK POETS.

Examiner,.....Rev. George Cornish, M.A., LL.D.

1. Translate with an explanatory note when you deem it necessary :—

(A) Pindar, Olymp. VI., vss. 92–105.

2. (*a*) Construe and explain vss. 1–3 of this ode. (*b*) vss. 23–24 ὄφρα * * * βάσομεν :—Indicative or Subjunctive? (*c*) vs. 25, ἐξ ἄλλαν ;—to what is the reference? (*d*) Ταλαϊονίδας :—explain this form of the patronymic. (*e*) ἀμεμφεῖ ἰᾷ :—explain this figure of rhetoric, and cite other instances. (*f*) Parse the following words, giving equivalents in Attic :—δίδοι, Ἀγησία, ἴμεν, φῇ, γεγάκειν, ἀδεῖν, φαντι, ἐριπέντι (*g*) What is the *Schema Pindaricum*?

3. (*a*) Translate the following phrases from Pindar, noting differences of interpretation :—(1) ἀκέρδεια ἐλόγχεν θαμινὰ κακαγόρος. (2) ὁ μέγας δὲ κίνδυνος ἄναλκιν οὐ φῶτα λαμβάνει. (3) ἤτοι βροτῶν γε κέκριται πεῖρας οὐ τι θανάτου. (4) διαπειρά τοι βροτῶν ἔλεγχος. (5) τεκμαίρει χρῆμ' ἕκαστον. (6) Αἶδα τοι λάθεται ἁρμενα πράξαις ἀνήρ. (7) ἀγαθοὶ δὲ καὶ σοφοὶ κατὰ δαίμον' ἀνδρες ἐγένοντο. (8) ἀμαχον δὲ κρύψαι τὸ συγγενὲς ἦθος. (9) βοιωτίαν ὗν. (10) τὸ καυλᾶσθαι παρὰ καιρὸν μανίαισιν ὑποκρέκει.

4. Translate:—

(B) Sophocles, Antigone, vss. 1257–1291.

5. (*a*) Define the metrical term *κομμὸς*, and show its derivation. (*b*) Scan vss. 1261-1265. (*c*) Construe carefully and interpret vss. 1278–1280.

6. Translate the following extracts from the Antigone, adding an explanatory note where you see fit:—

(*a*) *ἔχεις τί κεἰσήκουσας; ἢ σε λανθανει,*
πρὸς τοὺς φίλους στείχοντα τῶν ἐχθρῶν κακά;

(*b*) *τί δ' ὦ ταλαῖφρον εἰ τάδ' ἐν τούτοις, ἐγὼ*
λύουσ' ἂν ἢ 'φάπτουσα προσθείμην πλέον;

(*c*) *αὔτ' ἂν κελεύσαιμ' οὔτ' ἂν εἰ θέλοις ἔτι*
πράσσειν ἐμοῦ γ' ἂν ἡδέως δρῳ'ης μέτα.

(*d*) *ἐᾶν δ' ἄθαπτον καὶ πρὸς οἰωνῶν δέμας*
καὶ πρὸς κυνῶν ἐδεστόν αἰκισθέντ' ἰδεῖν·

(*e*) *λόγοι δ' ἐν ἀλλήλοισιν ἐρρώθουν κακοί,*
φύλαξ ἐλέγχων φύλακα κἀν ἐγίγνετο
πληγὴ τελευτῶσ' οὐδ' ὁ κωλύσων παρῆν.

7. (*a*) Show the connection of the Choral Odes in the Antigone with each other, and their bearing on the main action of the Drama. (*b*) Compare, or contrast, Sophocles and Euripides in their treatment of the Choral parts of their dramas, and note the criticism of Aristotle thereupon.

8. Translate:—

(C) Euripides, Medea, vss. (*a*) 421–446. (*b*) 1113–1132.

9. (*a*) Give the name and scale of the metre of ext. (*a*) and scan the first five vss. (*b*) Write short explanatory notes on the following:—(1) *Κυανέας Συμπληγάδας.* (2) *κτανεῖν πείσασα Πελιάδας κόρας πατέρα.* (3) *οἵδε παῖδες ἐκ τρόχων* (or *τροχῶν*) *πεπαυμένοι.* (4) *πεσσοὺς πρασελθών.* (5) *ἐπ' ἀμφιπύλου.* (6) *ἄκροισι λαίφους κραςπέδοις·* (7) *Πανὸς ὀργάς.* (8) *ἑλκων κῶλον ἐκπλέθρου δρόμου ταχὺς βαδιστὴς τερμόνων ἀνθήπτετο.* (9) *τὸν γέροντα πύμβον.*

10. Give as carefully as you can the etymology and meaning of:—*βαλβῖδα, κληῖδας, παιδολέτωρ, δέμας, ξυνωρὶδα, ὀργάς, χρυσήλατον, ξύμβολα, χαρακτήρ, τραχεῖαν, σκαιοῖσι, βραβέυς.*

11. (D) Hesiod, Works and Days:—(*a*) vss. 155–171. (*b*) vss. 693–703.

12. (*a*) What is the Aeolic Digamma? Point out any traces of it in the above extt. (*b*) Comment on the following forms, and give Attic equivalents of such as are not Attic :—*τετορ', ἀρίζηλον, ἐκητι, ἀέξει, ἀφενον, ἐθελημενοί, ἐναλίκιον, ἅπλητοι, ἐκπάγλους, ἀρειον, πολιοκρόταφόι, ἀπηύρα, κοθούροις, μέταζε, τετράτρυφον, ὀκτάβλωμον.* (*c*) Give the exact meaning of the title *Ἔργα καὶ Ἡμέραι.* (*d*) When and where did Hesiod live?

B.A. HONOURS.

IV. GREEK POETS.

Examiner, ... REV. GEORGE CORNISH, M.A., LL.D.

1. Translate, with an explanatory note when you deem it necessary :—

(*A*) Æschylus, Seven against Thebes, vss. 792-810.

2. (*a*) Scan vss. 78–82, naming the metre and giving the scheme. (*b*) Narrate briefly the Theban legend, and name the other two Tragedies completing the Trilogy. (*c*) How is this drama characterized by Aristophanes, and on what grounds may its popularity be accounted for?

3. Comment on the meaning or formation of the following words or phrases :—(1) *πρᾶγος.* (2) *εὖ ῥέπει τύχη.* (3) *κῦμα χερσαῖον.* (4) *κτύπον δέδορκα.* (5) *ψῆφος ὀλεθρία.* (6) *ἀρτίκολλον.* (7) *ἀπογυμνάζων στομα.* (8) *αἴθωι λῆμα.* (9) *οὐ καπηλεύσειν μάχην.* (10) *Ἑβδομαγέτης.*

4. Translate :—

(B) Aristophanes, The Frogs, (*a*) vss. 185-205 ; and (*b*) 814-829.

5. (*a*) Explain briefly the mythical or political references in ext. (*a*). (*b*) Show the metrical structure of ext. (*b*), and scan vss. 814-817. (*c*) Cite words taken from Æschylus. (*d*) What were the points criticized by the addition to the citations from Euripides of *ληκύθιον ἀπώλεσεν*? (*e*) Describe the structure of the Parabasis.

6. Write short grammatical notes on :—(*a*) *ἐκεῖνα μόνον ὅπως μὴ 'ρεῖς.* (*b*) *ἢ τὰν σε κωκύειν ἐκέλευον μακρά.* (*c*) *ὡς ὄντος γε μὴ βαδιστικοῦ* (*d*) *ὑπάγεθ' ὑμεῖς τῆς ὁδοῦ.* (*e*) *οὐ μὴ φλυαρήσεις ἔχων.* (*f*) *οὐ μὴ καλεῖς με ἱκετεύω.* (*g*) *ἀιροί' ἂν ἰὐθις, ὦ παῖ.*

7. Translate :—

(C) Theocritus, (*a*) Idyll i., vss. 132-145 ; (*b*) iii., vss. 24–36; (*c*) iv., vss. 15-28.

8. (*a*) Write an account of Theocritus, and characterize his poetry in respect of subject-matter, metrical structure and dialect. (*b*) Point out words in the above extt. proper to that dialect, and give their equivalents in Attic. (*c*) By what writers in Latin and English has he been imitated? (*d*) Derive and explain *εἰδύλλια*.

9. Translate:—

(D) Plato, The Republic, Books I. and II. (*a*) Bk. I., cap. III., §§ A–B, down to *ἡλικίας*; or (*b*) Bk. II., chap. XIII., *ταῦτα γὰρ τισὶν * * * τὸν γυναικεῖον κοσμόν*.

10. (*a*) Write a summary of the 1st or 2nd Book. (*b*) Write short biographical notes explanatory of the following references:—*Νικίου, Λυσίαν, Σιμωνίδην, Βίαντα, Περιάνδρου*. (*c*) *τὴν παλαιὰν παροιμίαν*;—Give the proverb in Greek, and its Latin and English equivalents. (*d*) Parse the following verbs:—*ἦ, ἐαράκη, ἐπεπόνθη, καθῆστο, ἤδησθα, ἀποκρινοῖο*.

B.A. HONOURS.

V. LATIN.

Examiner, ...REV. GEORGE CORNISH, M.A., LL.D.

1. Translate (adding an explanatory note where you may deem it necessary on any peculiar form or construction in any of the extt.):—

(A) Horace, Epp., Bk. I., ep. xv., vs. 26-41.

2. (*a*) To what extent may such personal references as are found in this and others of the letters and satires of Horace be held to be trustworthy for biographical purposes? (*b*) Comment briefly on the meaning of the following words or phrases in ep. xv., and turn them into Greek where you can:—deversoria, stomachosus, puteos, jugis, urbanus, scurra, praesepe, lamna, fundata.

3. Translate carefully the following extracts, noting any grammatical peculiarities or varieties of reading or punctuation:—

(*a*) Virtus est vitium fugere et sapientia prima
Stultitia caruisse.
(*b*) Si curatus inaeqeali toosore capillos,
Occurri rides.
(*c*) Abi, quaere, et refer, unde domo, quis,
Cuius fortunae, quo sit patre quove patrono.
d) Fidis offendar medicis, irascar amicis,
Cur me funosto properent arcere veterno.

(*e*) Strenua nos exercet inertia; navibus atque
Quadrigis petimus bene vivere.
(*f*) Ne studio nostri pecces, odiumque libellis
Sedulus importes, opera vehemente minister.
(*g*) Sit spes fallendi, miscebis sacra profanis;
Nam de mille fabae modis cum surripis unum,
Damnum est non facinus mihi pacto lenius isto.

4. Translate:—(B) Plautus, Aulularia, (*a*) Act IV., sc. 8: and (*b*) Act II., sc. 2, vss. 14-29 (Ed. Tauchnitz).

In the above extract derive cassam, inhiat, zamiam, polypos, harpagatum, ilico, mendicabula.

5. Translate:—Terence, Adelphi, Act II., Sc. 4, vss. 7-23. (Ed. Tauchnitz). Point out ellipses occurring in this extract and supply them.

6. (*a*) Write down the schemes of the *Iambic Senarius* and of the *Trochaic Septenarius* of Latin Comedy, and show how they differed from the corresponding metres as used by Aristophanes. (*b*) Describe the practice designated by the verb *contaminare* (*c*) Comment on the use of the *Prologue* by Plautus and Terence, severally. On what grounds have the prologues of Plautus been held to be spurious? (*d*) Instance peculiarities of Orthography and Grammatical construction from Plautus. To what main facts touching the language do these point? (*e*) Explain the formation and meaning of the following: Unde, clam, pessum, frugi, foras, illuc, quin, palam, actutum, eccum, sicubi, quasi.

7. Translate:—

(D) Livy, Bk. XXI., ch. 62.

8. (*a*) How does the above ext. illustrate the characteristic features of the religion and worship of Rome? (*b*) Trace the route of Hannibal from Spain into Italy. (*c*) Contrast the style of Livy with that of Tacitus. Which is the more trustworthy historian?

9. Translate:—

(E) Cicero, De Imp. Cn. Pomp., chap. 2; §§ 4 and 5.

10. (*a*) *Honestissimis viris*:—explain the political, social and commercial position and importance of the *Equites* as a class in the time of Cicero. (*b*) *Asiam*:—define the geography. (*c*) How did Pompey requite the efforts put forth by Cicero in his behalf? Can you cite from Cicero's letters any remarks on this point?

11. Translate:—

(F) Sed dum exemplar propositae rei persequor, latius mihi circumspicienti ante omnia se Fulvii Flacci constantia offert. Capuam, fallacibus

Annibalis promissis Italiae regnum nefaria defectione pacisci persuasam armis occupaverat. Tam deinde culpae hostium iustus aestimator, quam speciosus victor, Campanum senatum impii decreti auctorem funditus delere constituit. Itaque catenis onustum in duas custodias, Teanam Calenamque, divisit: consilium exsecuturus, cum ea peregisset, quorum administrandorum celerior esse necessitas videbatur. Rumore autem de mitiore senatus sententia orto, ne debitam poenam scelerati effugerent, nocte admisso equo Teanum contendit, interfectisque qui ibi asservabantur, e vestigio Cales transgressus, perseverantiae suae opus exsecutus est. Et iam deligatis ad palum hostibus, literas a P. C., nequidquam Campanis salutares, accepit. In sinistra enim eas manu, sicut erant traditae, retinuit: ac iusso lictore lege agere, tum demum aperuit, postquam illis obstemperari non poterat. Qua constantia victoriae quoque gloriam antecellit quia, si eum intra se ipsum partita laude aestimes, maiorem punita Capua, quam capta, reperies.

B.A. HONOURS.

VI. LATIN.

Examiner, ... Rev. George Cornish, M.A., LL.D.

1. Translate (adding an explanatory note where you may deem it necessary on any peculiar form or construction in any of the extt.):—

(A) Tacitus, Histories I., (*a*) chap. 2; (*b*) chap. 63.

2. (*a*) Write short explanatory notes on six of the historical references in ext. (*a*), and comment on the personal reference in the same ext. (*b*) *Divoduri*:—Give the moderate name. (*c*) *et causis incertis eoque difficilioribus*:—explain the construction.

3. (*a*) Enumerate in their chronological order the writings of Tacitus, and point out their connection with each other, and the literary and moral characteristics of Tacitus. (*b*) Name the chief authorities used by Tacitus.

4. Translate:—

(B) Tacitus, Annals II., (*a*) chap. 47; (*b*) chap. 86.

5. (*a*) (1) *Aerario aut fisco*:—Explain the distinction. (2) *A Sipylo*:—What is the import of this addition? Write short notes on the other geographical references in this chap.

(*b*) Ext. (*b*) *Capiendam virginem*:—What was the custom here referred to? (2) Give an account of the college of Vestals, stating its functions, and the limit and conditions of service in it.

6. Translate :—

(C) Juvenal, Sat. X. (*a*) vss. 250-264 ; (*b*) vss. 65-76.

7. (*a*) Comment on the historical and other references in ext. (*b*), and write explanatory notes on :—(1) Pluma Sardanapali. (2) Ritu decies centena dabuntur antiquo. (3) Non nisi legitime vult nubere. (4) Usqus ad delicias votorum. (5) Animam exhalasset opimam. (6) Madidi. Sostratus alis. (7) Vervecum patria. (8) Quinquatribus. (9) Sportulae (10) Gabiorum potestas. (Give the modern Italian name.)

(D) Persius, Sat. vi., vss. 1-15.

8. (*a*) Give the etymology and meaning of the following words :— bruma, tetrico, uncto, vapida, varo, genio, olus, mergis, exossatus, artocreas. (*b*) Comment on the meaning of the following from Sat. v. :— (1) Curto centusse. (2) Varicosos centuriones. (3) Herodis dies. (4) Verte aliquid. (5) Lubrica Coa. (6) Sub sole recenti. (*c*) Derive and give the exact meaning of the term *Satira*.

9. Translate the following extt. from Sat. V., noting differences of interpretation in any :—

(*a*) Quumque iter ambiguum est, et vitæ nescius error
Diducit trepidas ramosa in compita mentes,
Me tibi supposui : teneros tu suscipis annos
Socratico, Cornute, sinu ; tunc fallere sollers
Apposita intortos extendit regula mores,
Et premitur ratione animus vincique laborat,
Artificemque tuo ducit sub pollice vultum.

(*b*) Petite hinc juvenesque senesque
Finem animo certum serisque viatica canis.
"Cras hoc fiet." Idem cras fiet. "Quid? quasi magnum
Nempe, diem donas?" Sed quum lux altera venit,
Jam cras hesternum heu! consumsimus : ecce aliud cras
Egerit hos annos, et semper paulum erit ultra.

(*c*) Mendose colligis, inquit
Stoicus hic aurem mordaci lotus aceto ;
Hoc, reliqua accipio, *licet ut volo vivere*, tolle.
"Vindicta postquam meus a prætore recessi,
Cur mihi non liceat jussit quodcunque voluntas,
Excepto si quid Masuri rubrica vetavit?"

10. Translate :—

(E) Cicero, De Officiis, Book III., chap. 2 ; §§ 5 and 6.

B. A. HONOURS

VII. GREEK PROSE COMPOSITION.

Examiner,..... Rev. George Cornish, M.A., LL.D.

Translate into Greek (accented) :—

(A) And when Alcibiades with much booty had come to the camp, he proceeded with all his force to surround Chalcedon from sea to sea with a stockade. Thereupon Hipparchus, the Lacedæmonian governor, led forth his troops out of the city, with the intention of offering battle; and the Athenians drew themselves up in battle array against him; whilst Pharnabazus came hurrying to his assistance with his forces and with many horsmen. Accordingly Hippocrates and Thrasyllus, each with his heavy-armed infantry, continued the engagement for a long time, until Alcibiades, with a force of heavy-armed infantry and his cavalry, came to the assistance of Thrasyllus. And Hippocrates was slain, and those under his command fled into the city.

(B) Much has been done which men will admire: much remains to be done which they can praise. They will read with wonder of empires and provinces, of the Rhine, the ocean, and the Nile, of battles without number, of amazing victories, of countless monuments and triumphs; but unless this commonwealth be wisely re-established in institutions by you bestowed upon us, your name will travel widely over the world, but will have no stable habitation; and those who come after us will dispute about you as we have disputed. Some will extol you to the skies, others will find something wanting, and the most important element of all. Remember the tribunal before which you will hereafter stand. The ages that are to be will try you with minds, it may be, less prejudiced than ours, uninfluenced either by desires to please you or by envy of your greatness.

B. A. HONOURS

VIII. LATIN PROSE COMPOSITION.

Examiner,..... Rev. George Cornish, M.A., LL.D.

Translate into Latin :—

(A) But the enemies of Caesar, in their blind fury and their well-grounded apprehensions, had taken out of his hands the responsibility of declaring war. In the autumn of 50 B. C. the Senate had, by a majority of three hundred and seventy to twenty, ordered both Caesar and Pompeius to disband their armies and surrender their extraordinary commands; but the consul, C. Marcellus, crying out to the assembled fathers,

"Let Caesar then be your master," had gone to Pompeius who was in his Alban villa, and putting a sword into his hand, had commissioned him to take command of the two legions in Campania, and to raise levies in Italy to meet the legions of Caesar. Pompeius, who had been originally driven into coalition with Caesar by the coldness of the Senate, and had until 54 B. C. furthered the interests of his ally, whom he, like the rest of the world, regarded only as an inferior, another Gabinius or Afranius, now openly recognized in his old father-in-law a rival, and cast in his lot with his new father-in-law Metellus, consenting to become the leader of the senatorial party against those autocratic pretensions which in his own person had so palpably failed. The foiled aspirant to supreme power was now the recognized champion of the old constitution, which he more than any other man had destroyed. He received the sword from Marcellus, but his heart was not in the work.

(B) And since I have mentioned Pyrrhus, I will end with a very good though known story of this ambitious madman. When he had shewn the utmost fondness for his expedition against the Romans, Cineas, his chief minister, asked him what he proposed to himself by this war? "Why," says Pyrrhus, "to conquer the Romans, and reduce all Italy to my obdience." "What then?" says Cineas. "To pass over into Sicily," says Pyrrhus, "and then all the Sicilians must be our subjects." "And what does your majesty intend next?" "Why truly," says the king, "to conquer Carthage, and make myself master of all Africa." "And what, sir," says the minister, "is to be the end of all your expeditions?" "Why then," says the king, "for the rest of our lives we will sit down to good wine." "How, sir," replies Cineas, "to better than we have now before us? Have we not already as much as we can drink?"

B. A. HONOURS

IX. HISTORY OF GREECE AND ROME.

Examiner,..... ....REV. GEORGE CORNISH, M.A., LL.D.

1. Discuss the import of the terms Ancient and Modern History, and justify the use of them. With what nations in particular does Ancien History concern itself?

2. Describe generally the geography of the two peninsulas of Greece and Italy, and point out in what respects the national character and destiny of these countries were severally modified by it.

3. An account of the Pelasgi. What are Grote's views respecting them?

4. Discuss the causes of the early superiority of the Ionic Colonies in Asia Minor over the Mother-country in poetical, philosophical, and historical literature.

5. Write a short account of the usurpation of Peisisiratus, and of the reforms of Cleisthenes at Athens.

6. Characterise the people and government of Sparta.

7. Enumerate the sources of Roman History which were open to the earliest Roman annalists. Give the names of the chief of these previous to the time of Livy.

8. What conclusions may be drawn from the remains of the Italian Languages as to the primitive stocks that occupied the country?

9. Give a summary of Mommsen's account of the original Constitution of Rome, and of the changes that it underwent by the reforms of Servius Tullius, and the expulsion of the kings.

10. What were the most potent causes that led to the downfall of the Republic and the establishment of the Empire? In what respects did the latter operate for the benefit of the Roman World?

11. Into what divisions may the Greek colonies in Italy be divided? Name the most ancient and influential of them.

B. A. HONOURS.

X. GENERAL PAPER.

Examiner, ... Rev. George Cornish, M.A., LL.D.

1. (*a*) Derive and define the term *Dialect*. To what causes may dialectic varieties be assigned? (*b*) What are the leading characteristics of the Doric and Attic dialects, severally?

2. (*a*) Define the term *Case;* and show the origin of the term. *Oblique Cases.* (*b*) Instance traces of lost cases in Greek and Latin

3. (*a*) Compare the earlier and later uses of the Greek Article (*b*) What classes of nouns may be used *Anarthrous?* (*c*) Classify the various uses of the *Middle Voice* in Greek. How does the Latin provide for the want of the same? (*d*) Are there any traces in Latin of a *Middle Voice* and of an *Aorist Tense?*

4. Set forth in (1) Latin; (2 in Greek the various ways in whicht purpose can be expressed, using the phrase *He came to see the army.* *b*) How does ἂν added to final ὡς or ὅπως affect the statement? (*c*) What does ἂν imply when used with the Historic Tenses of the Indicative?

5. Point out and illustrate what is peculiar in the use of the Infinitive in the following quotations, severally:—(*a*) Pecus egit altos visere montes. (*b*) Fruges consumere nati. (*c*) Quis sibi res gestas Augusti scribere sumit? (*d*) Nil scire tuum est, nisi te scire hoc sciat alter.

6. Translate into Latin:—(*a*) *οὐκ ἐφη αὐτὸς ἀλλ' ἐκεινον ἐλεύσεσθαι* (*b*) *ἠσθετο ὑπὸ τῶν πολεμίων νικηθεις.* Express in Greek:—(*a*) Gaius Gaiam duxit. (*b*) Gaio Gaia nupsit.

7. (*a*) To whom is the system of Greek accentuation attributed? (*b*) Define *Enclitics*, *Proclitics* and *Anastrophe*. (*c*) Distinguish between:—*σῖγα*, *σίγα*, *σιγα*, and *σιγά*. (*d*) Give the rules for the accentuation of the Greek verb. (*e*) Accentuate, with the proper *spiritus*, the following ext.:—

Δυο εν Ευβοιᾳ Φιλιππος κατεστησε τυραννους, τον μεν απαντικρυ της Αττικης επιτειχισας, τον δε επι Σκιαθῳ· υμεις δε ουδε ταυτα απελυσασθε, ει μηδεν αλλο εβουλεσθε, αλλ' ειακατε· αφεστατε δηλον οτι αυτῳ.

8. Give Donaldson's classification of Greek plays, with the substance of his remarks on the origin of Comedy and Tragedy among the Greeks. Give also the etymology of the terms *τραγῳδία* and *κωμῳδία*.

9. In what departments of literature did Latin writers most closely follow Greek models, and in what did they show the greatest originality?

10. (*a*) From what sources were the Comedies of Plautus and Terence derived? (*b*) What is meant by *Fabula togata*, *palliata*, and *praetextata*?

THIRD YEAR EXAMINATION FOR HONOURS IN CLASSICS.

WEDNESDAY, APRIL 13TH:—MORNING, 9 TO 12.

Examiner,.....REV. GEORGE CORNISH, LL.D.

1. Translate:—

Æschylus, Prometheus Vinctus, (*a*) vss. 714-735. (*b*) vss. 1071-1093.

2. Ext. (*a*)—(1) *λαιᾶς χειρός*,—explain this use of the Genitive. (2) *ἀνήμεροι*,—derive, giving cognate forms. (3) *βόσπορος*, what is the best derivation of this? (4) Write short comments on the mythological and geographical references of this extract, pointing out mistakes.

3. (*a*) Comment on the style of Æschylus, noting the introduction of Ionic elements, and his use of *pleonasm, metaphor* and *oxymoron.* (*b*) What improvements in the representation of Tragedy are attributed to him?

4. Translate:—Aristophanes, The Frogs (*a*) vss. 185-205; and (*b*) 814-829.

5. (*a*) Explain briefly the mythical or political references in ext. (*a*) (*b*) Show the metrical structure ef ext. (*b*), and scan vss. 814-817. (*c*). Cite words taken from Æschylus. (*d*) What were the points criticised by the addition to the citations from Euripides of *ληκύθιον ἀπώλεσεν*? (*e*) Describe the structure of the Parabasis.

6. Write short grammatical notes on:—(*a*) *ἐκεῖνα μόνον ὅπως μὴ 'ρεῖς.* (*b*) *ἢ τἂν σε κωκύειν ἐκέλευον μακρά.* (*c*) *ὡς ὄντος γε μὴ βαδιστικοῦ.* (*d*) *ὑπάγεθ' ὑμεῖς τῆς ὁδου.* (*e*) *οὐ μὴ γναρήσεις ἔχων.* (*f*) *οὐ μὴ καλεῖς με ἱκετεύω.* (*g*) *αἶροι' ἂν αὐθις, ὦ παῖ.*

7. Translate:—Pindar, Olymp. VI., vss. 92-105.

8. (*a*) Construe and explain vss. 1-3 of this ode. (*b*) vss. 23-24 *ὄφρα * * * βασομεν*:—Indicative or Subjunctive? (*c*) vs. 25, *ἑ, ἀλλᾶν*:—to what is the reference? (*d*) *Ταλαϊονίδας*:—explain this form of the patronymic. (*e*) *ἀμεμφεῖ ἰᾷ*:—explain this figure of rhetoric, and cite other instances. (*f*) Parse the following words, giving equivalents in Attic:—*δίδοι, Ἀγησία, ἰμεν, φῇ, γεγάκειν, ἀδεῖν, φαντι, ἐριπέντι.* (*g*) What is the *Schema Pindaricum*?

9. (*a*) Translate the following phrases from Pindar, noting differences of interpretation: (1) *ἀκέρδεια λέλογχεν θαμινὰ κακαγόρος.* (2) *ὁ μέγας δὲ κίνδυνος ἄναλκιν οὐ φῶτα λαμβάνει.* (3) *ἤτοι βροτῶν γε κέκριται πεῖρας οὐ τι θανάτου.* (4) *δίαπειρά τοι βροτῶν ἔλεγχος.* (5) *τεκμαίρει χρῆμ' ἕκαστον.* (6) *Ἀίδα τοι λάθεται ἄρμενα πράξαις ἀνήρ.* (7) *ἀγαθὶ δὲ καὶ σοφοὶ κατὰ δαίμον' ἀνδρες ἐγένοντο.* (8) *ἀμαχον δὲ κρύψαι τὸ συγγενὲς ἦθος.* (9) *βοιωτίαν ὖν.* (10) *τὸ καυχᾶσθαι παρὰ καιρὸν μανίασιν ὑποκρέκει.*

10. Translate:—

(D) Xenophon, Hellenics, Bk. I., chap. 4, §§ 13-17 inclusive. *τὸν Ἀλκιβιάδην*,—what is the import of the article as here used? Write short notes explanatory of the references personal or political to Alcibiades in this extract.

(F) Aristotle, The Poetics:—

(*a*) ὅθεν καὶ δράματα καλεῖσθαί τινες αὐτά φασιν, ὅτι μιμοῦνται δρῶντας· διὸ καὶ ἀντιποιοῦνται τῆς τε τραγῳδίας καὶ τῆς κωμῳδίας οἱ Δωρεῖς· τῆς μὲν γὰρ κωμῳδίας οἱ Μεγαρεῖς, (οἱ τε ἐνταῦθα ὡς ἐπὶ τῆς παυ' αὐτοῖς δημοκρατίας γενομένης καὶ οἱ ἐκ Σικελίας, ἐκεῖθεν γὰρ ἦν Ἐπίχαρμος ὁ ποιητὴς πολλῷ πρότερος ὢν Χιωνίδου καὶ Μάγνητος), καὶ τῆς τραγῳδίας ἔνιοι τῶν ἐν Πελοποννήσῳ, ποιούμενοι τὰ ὀνόματα σημεῖον· οὗτοι μὲν γὰρ κώμας τὰς περιοικίδας καλεῖν φασίν, Ἀθηναῖοι δὲ δήμους, ὡς κωμῳδοὺς οὐκ ἀπὸ τοῦ κωμαζειν λεχθέντας, ἀλλὰ τῇ κατὰ κώμας πλάνῃ ἀτιμαζομένους ἐκ τοῦ ἄστεος, καὶ τὸ ποιεῖν αὐτοὶ μὲν δρᾶν, Ἀθηναίους δὲ πράττειν προσαγορεύειν. περὶ μὲν οὖν τῶν διαφορῶν καὶ πόσαι καὶ τίνες τῆς μιμήσεως εἰρήσθω ταῦτα.

(*b*) ὀνόματος δὲ εἶδη τὸ μὲν ἁπλοῦν, ἁπλοῦν δὲ λέγω ὃ μὴ ἐκ σημαινόντων σύγκειται, οἷον γῆ, τὸ δὲ διπλοῦν. τούτου δὲ τὸ μὲν ἐκ σημαινοντος καὶ ἀσήμου, πλὴν οὐκ ἐν τῷ ὀνόματι σημαίνοντος καὶ ἀσήμου, τὸ δὲ ἐκ σημαινόντων συγκεῖται. εἴη δ' ἂν καὶ τριπλοῦν καὶ τετραπλοῦν ὄνομα καὶ πολλαπλοῦν, οἷον τὰ πολλὰ τῶν μεγαλείων, ὧν Ἑρμοκαϊκόξανθος. ἅπαν δὲ ὄνομά ἐστιν ἢ κύριον ἢ μεταφορὰ ἢ κόσμος ἢ πεποιημένον ἢ ἐπεκτεταμένον ἢ ὑφῃρημένον. λέγω δὲ κύριον μὲν ᾧ ἕκαστοι, γλῶτταν δὲ ᾧ ἕτεροι, ὥστε φανερὸν ὅτι καὶ γλῶτταν καὶ κύριον εἶναι δυνατὸν τὸ αὐτό, μὴ τοῖς αὐτοῖς δέ· τὸ γὰρ σίγυνον Κυπρίοις μὲν κύριον, ἡμῖν δὲ γλῶττα. μεταφορὰ δέ ἐστιν ὀνόματος ἀλλοτρίου ἐπιφορὰ ἢ ἀπὸ τοῦ γένους ἐπί εἶδος, ἢ ἀπὸ τοῦ εἴδους ἐπὶ τὸ γένος, ἢ ἀπὸ τοῦ εἴδους ἐπὶ εἶδος, ἢ κατὰ τὸ ἀνάλογον.

8. (*a*) Distinguish between ἡ ποιητικὴ and ἡ πρακτική. (*b*) Define the following terms, giving the etymology where you can:—ἠπιποιία, οἱ δὲ δια συνηθείας, σχηματιζομένων ῥυθμῶν, ῥυθμὸς καὶ μέλος καὶ μέτρον, ψόγους, ὕμνους, ἐπεισόδιον. (*c*) Note and comment on the chief points in Aristotle's definition of Tragedy. (*d*) Write a short account of this Treatise, pointing out in what respects it is redundant or defective, and naming commentators and editors.

THIRD YEAR HONOURS

LATIN ..... { Livy, Bks. XXI.-XXIII.
Cicero, De Imperio, Laelius, Cato Maior.
Tacitus, Histories, Bk. I.

Wednesday, April 6th:—Morning, 9 to 12.

Examiner, ... A. J. Eaton, M.A., Ph.D.

1. Translate Livy, Bk. XXI., (*a*) ch. 44, through *terminos observat.* (*b*) Bk. XXII, ch. 26, through *gratias tulit.* (*c*) Bk. XXIII, through *victoria facturum.*

2. (*a*) Remark upon the expression *frenatos infrenatosque*. (*b*) Give the derivation of *anfractibus*. (*c*) *oppugnassetis* (Ext. a) : explain the use of the Subjunctive. (*d*) Expand and explain the expression *deditos—affecturi fuerunt* (Ext. a). (*e*) *duabus aedilitatibus*; what were the rights and duties of the aediles?

3. (*a*) Illustrative from the twenty-first book any difference in the narrative of Livy and Polybius. (*b*) By whom was *Saguntum* founded? What was the origin of its name? (*b*) Distinguish in meaning, *custodiae stationes*. Define *agmen quadratum*. With what root does Mommsen connect the words *populus* and *populor?* Explain.

4. Without translating, discuss any peculiarities of expression in the following :

(*a*) ab actuariis aliquot navibus ad alteram ripam pertrahetur.

(*b*) ut re ita gesta ad utrumque ducem sui redierunt.

(*c*) non vereor, ne quis me haec vestri adhortandi causa magnifice loqui existimet.

(*d*) Tamen consul alter, equestri prœlio uno et vulnere suo animi minutus, trahi rem malebat.

5. Translate (at sight) :

Urbe ab Horatio servata, obsidio erat nihilominus et frumenti inopia, sedendoque expugnaturum se urbem Porsena sperabat, cum C. Mucius, adolescens nobilis, magno audacique facinore eam indignitatem vindicandam esse ratus, sua sponte in hostium castra penetrare constituit. Dein, metuens ne, si consulum iniussu et ignaris omnibus iret, forte deprehensus a custodibus Romanis retraheretur ut transfuga, senatum adit. "Transire Tiberim," inquit, "patres, et intrare, si possim, castra hostium volo, non praedo nec populationum ultor; maius, dis iuvantibus, in animo est facinus." Approbant patres. Abdito intra vestem ferro proficiscitur. Ub eo venit, in confertissima turba prope regium tribunal constitit. Mucius timens sciscitari uter Porsena esset, ne regem ignorando semet ipse aperiret quis esset, scribam pro rege obtruncat. Inde dum per trepidam turbam cruento mucrone viam sibi ipse facit, regii satellites comprehensum retraxerunt. Ante tribunal regis destitutus, tum quoque inter tantas fortunae minas metuendus magis quam metuens, "Romanus sum," inquit "civis;" C. Mucium vocant. Hostis hostem occidere volui, nec ad mortem minus animi est quam fuit ad caedem. Romanum est et facere et pati. Nec unus in te hos animos gessi; iuventus tibi Romana omnis bellum indicit. Ne aciem, ne proelium timueris; uni tibi et cum singulis res erit." Tum rex simul ira commotus periculoque conterritus, ignem circumdari iussit nisi propere exponeret quas sibi insidias minaretur.

6. Translate, CICERO (*a*) De Imperio, § 50; (*b*) Laelius, § 91; (*c*) Cato Maior § 7.

7 (*a*) *erat deligendus* (Ext. a) : explain this construction. (*b*) *carerent, spernerentur*; why are these verbs in the subjunctive? (*c*) Distinguish in meaning, *adulatio, blanditia, assentatio.*

8. Translate, TACITUS, Histories, Bk. I., chaps. 9 and 69.

9. Write explanatory notes on *falsi Neronis, Curtii lacum, speculatores, Vipsania porticus, maiestas.*

10. (*a*) Remark on the use of the word *repens*, in Tacitus and Livy. (*b*) Derive *dirimo*; explain and illustrate the phonetic change in the formation of this compound. (*c*) *Praetextum* : in what meanings is this word employed by Tacitus? Does there seem to be any distinction between *praetextus* and *praetextum*?

11. Discuss the following constructions :

(*a*) populus pleraque sine modo festinavit.

(*b*) ubi per turmas advenere, vix ulla acies obstiterit.

(*c*) si te privatus lege curiata apud pontifices adoptarem, mihi egregium erat Cn. Pompeii subolem in penates meos adsciscere.

(*d*) neque conti neque gladii, quos praelongos utraque manu regunt usui.

THIRD YEAR HONOURS.

LATIN.— { HORACE, Epistles, Bk. I.
TERENCE, Adelphi.

SATURDAY, APRIL 16TH :—MORNING, 9 TO 12.

Examiner,..... A. J. EATON, M.A., PH.D.

1. Translate :—Horace, Epistles, Bk. I., Ep. i., vss. 53-65; Ep. vi., 1-11 Ep. xiii.

2. (*a*) Discuss the various renderings of v. 7, Ep. vi. (*b*) Comment, as you may deem fit, on vss. 50-55 of Ep. vi. (*c*) Who was *Aristippus*? *Lynceus*? *Moschus*? *Lucullus*? *Empedocles*?

3. Translate and interpret :—

(*a*) quod verum atque decens curo et rogo
et omnis in hoc sum :
condo et compono quae mox depromere possim.

(*b*) Sirenum voces et Circae pocula nosti ;
quae si cum sociis stultus cupidusque bibisset,
sub domina meretrice fuisset turpis et excors.
vixisset canis immundus vel amica luto sus.

(*c*) Locus est et pluribus umbris.

(*d*) Non cuivis homini contingit adire Corinthum.

4. Translate, with a brief explanation of any peculiarities of construction, metre, or expression:—

(*a*) idem eadem possunt horam durare probantes?
(*b*) dignum praestabo me etiam pro laude merentis.
(*c*) Non tu corpus eras sine pectore; di tibi formam,
di tibi diuitias dederunt artemque fruendi.
(*d*) Saepe verecundum laudasti, rexque paterque
audisti coram, nec verbo parcius absens.

5. Translate, Terence, Adelphi:—

(A) Numquam ita quisquam bene subducta ratione ait uitam fuit,
Quin res aetas usus semper aliquid adportet noui
Aliquid moneat: ut illa quae te scire credas nescias,
Et quae tibi putaris prima, in experiundo ut repudies.
Quod nunc mi euenit: nam ego uitam duram, quam uixi usque adhuc,
Prope iam excurso spatio mitto. id quam ob rem? re ipsa repperi
Facilitate nil esse homini melius neque clementia.
Id esse uerum ex me atque ex fratre quoiuis facilest noscere.
Ille suam egit semper uitam in otio, in conuiuiis,
Clemens, placidus, nulli laedere os, adridere omnibus:
Sibi uixit: sibi sumptum fecit: omnes bene dicunt, amant.
Ego ille agrestis, saeuos, tristis, parcus, truculentus, tenax
Duxi uxorem: quam tibi miseriam uidi! nati filii,
Alia cura: heia autem, dum studeo illis ut quam plurimum
Facerem, contriui in quaerundo uitam atque aetatem meam:
Nunc exacta aetate hoc fructi pro labore ab eis fero,
Odium: ille alter sine labore patria potitur commoda.

(B) Translate, explaining any unusual constructions:—

(*a*) Potius quam uenias in periclum Samno,
Seruesne an perdas totum, diuiduom face.
Minas decem conradet alicunde. Sa. Ei mihi,
Etiam de sorte nunc uenio in dubium miser?
Pudet nil? omnis dentis labefecit mihi:
Praeterea colaphis tuber est totum caput:
Etiam insuper defrudet? nusquam abeo. Sy. Vt. lubet.
(*a*) Sy. Probissume. De. Porro autem. Sy. Non hercle otiumst.
Nunc mi auscultandi. piscis ex sententia
Nactus sum: ei mihi ne corrumpantur cautiost.
(*b*) Sy. Rogitas? Ctesipho me pugnis miserum et istam psaltriam
Vsque occidit. De. Hem, quid narras? Sy. Em. uide ut discidit labrum.
(*c*) Nam iam adibo atque unum quicquid, quod quidem erit bellissumum,
Carpam et cyathos sorbilans paulatim hunc producam diem.

6. Scan, with comments, these lines :—

(*a*) obsecro, populares, ferte misero atque innocenti auxilium.
(*b*) student facere : in adparando consumunt diem.
(*c*) Nam quod isti dicunt malivoli, homines nobilis.

7. Translate (at sight) :

Mezentius addresses his favorite horse Rhaebus.

'Rhaebe, diu, res siqua mortalibus ulla est,
viximus. aut hodie victor spolia illa eruenti
et caput Aeneae referes Lausique dolorum
ultor eris mecum aut, aperit si nulla viam vis,
occumbes pariter ; neque enim, fortissime, credo,
iussa aliena pati et dominos dignabere Teucros.'
dixit et exceptus tergo consueta locavit
membra manusque ambas iaculis oneravit acutis,
aere caput fulgens cristaque hirsutus equina.
sic cursum in medios rapidus dedit : aestuat ingens
uno in corde pudor mixtoque insania luctu.
atque hic Aenean magna ter voce vocavit.
Aeneas agnovit enim laetusque precatur :
'sic pater ille deum faciat, sic altus Apollo,
incipias conferre manum.'
tantum effatus et infesta subit obvius hasta.
ille autem 'quid me erepto, saevissime, nato
terres ? haec via sola fuit, qua perdere posses.

THIRD YEAR HONOURS.

GREEK AND LATIN PROSE COMPOSITION.

WEDNESDAY, APRIL 13TH :—AFTERNOON, 2 TO 5.

Examiners, ... { REV. GEORGE CORNISH, M.A., LL.D.
DR. EATON.

(A) Translate into Greek :—

1. The general asked the king to send ambassadors in order to convey his views about peace to the Senate.

2. If you had waited till next day you would not have been defeated in the battle there.

3. The philosopher was entrusted with the government of the city by his fellow-citizens, but he sadly mismanaged affairs, and thereby did the state more harm than any other single citizen.

4. All unawares he fell into the hands of the enemy who took him prisoner and put him to death.

5. He replied, indeed you shall not take in hand the management of affairs until you have gained more wisdom, for men like you are always blundering.

6. It was plain enough to all that he had set his mind on doing all the harm he could to his friends.

(B) Translate into Latin:—

(*a*) From Carthage, the embassy passed over to Spain and Gaul, to attempt to win them over to an alliance with Rome. After making a circuit of both states without effecting anything, they returned to Rome. The Roman request, that the Gauls should refuse the right of way through their territory, if the Carthaginian tried to invade Italy, was greeted with laughter and a general cry of displeasure. Never had they received any kindness from Rome; on the contrary, heavy tributes had been imposed upon them, and they had been subjected to indignities of every kind. Why then, should they be so foolish as to turn the war upon themselves, instead of allowing it to pass into Italy, and expose their own lands to devastation instead of those of strangers?

(*b*) The voice of his comrades now summoned him—their tried, although youthful general—to the chief command, and he could now execute the designs for which his father and his brother-in-law had lived and died. He took possession of the inheritance, and he was worthy of it. His contemporaries tried to cast stains of all sorts on his character; the Romans charged him with cruelty, the Carthaginians with covetousness; and it is true that he hated as only Oriental natures know how to hate, and that a general who never fell short of money and stores can hardly have been other than covetous. Nevertheless, though anger and envy and meanness have written his history, they have not been able to mar the pure and noble image which it presents. Every page of the history of the times attests his genius as a general. The power which he wielded over men is shown by his incomparable control over an army of various nations and many tongues,—an army which never in the worst times mutinied against him. He was a great man; wherever he went he riveted the eyes of all. —Mommsen.

THIRD YEAR HONOURS,

HISTORY AND GENERAL PAPER.

Wednesday, April 20th:—Morning, 9 to 12.

Examiner, ... Rev. George Cornish, M.A., LL.D.

1. Describe generally the geography of the two peninsulas of Greece and Italy, and point out in what respects the national character and destiny of these countries were severally modified by it.

2. An account of the Pelasgi. What are Grote's views respecting them?

3. Discuss the causes of the early superiority of the Ionic Colonies in Asia Minor over the Mother-country in poetical, philosophical and historical literature.

4. Into what divisions may the Greek colonies in Italy be divided? Name the most ancient and influential of them.

5. Enumerate the sources of Roman History which were open to the earliest Roman annalists. Give the names of the chief of these previous to the time of Livy.

6. What conclusions may be drawn from the remains of the Italian Languages as to the primitive stocks that occupied the country?

7. (*a*) Give a summary of Mommsen's account of the original Constitution of Rome, and of the changes that it underwent by the reforms of Servius Tullius, and the expulsion of the Kings. (*b*) Sketch the political development of the Republic.

8. Define the meaning of the terms:—*Provincia*, *Colonia*, *Municipium*, *Civitas*, *Clientes*, and *Socii*.

9. Give the ancient names of the following:—Palermo, Scutari, Cologne, Mayence, Crimea, Cape Matapan, Treves, Piacenza, Lyons, Elbe, York, Stamboul.

10. (*a*) Give an account of the beginnings of Roman Literature. (*b*) Describe the *Saturnian Measure*, giving the scheme, and citing one or two specimens of it in Latin and English.

11. Cicero as an Orator, Poet and Philosopher.

12. The excellences of the Poetry of Horace.

MATHEMATICS AND NATURAL PHILOSOPHY.

FIRST YEAR—GEOMETRY AND ARITHMETIC.

THURSDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D. / G. H. CHANDLER, M.A.

Assistant Examiner, ... H. M. TORY, B.A.

(*Write the answers on two separate sets of papers headed A and B respectively to correspond to the questions.*)

A.

1. If two triangles have an angle in each equal and the sides about the equal angles proportional they shall be equiangular.

2. If four right lines be proportional the rectangle under the extremes is equal to the rectangle under the means.

(*a*) The rectangle under any two sides of a triangle is equal to the rectangle under the perpendicular on the third side, and the diameter of the circumscribed circle.

3. On a given straight line construct a segment of a circle which shall contain an angle equal to two thirds of a right angle.

(*a*) The base and vertical angle of a triangle are given and also its area. Construct it.

4. The area of a square is .000169 of a sq. mile, calculate the length of the diagonal.

5. Find a fourth proportional to .014, 2.03 and .003.

B.

6. The opposite angles of a quadrilateral inscribed in a circle are together equal to two right angles.

(*a*) If one side be produced, show that the exterior angle is equal to the interior and opposite angle.

7. Find a mean proportional between two given lines.

(*a*) Show that the mean proportional is never greater than half the sum of the lines.

8. If a straight line bisect the vertical angle of a triangle and cut the base, the square on the bisector shall be equal to the difference between the rectangle contained by the sides of the triangle and the rectangle contained by the segments of the base.

9. If in question 8 the sides are 6 and 4, and the base 5, show that the bisector is $3\sqrt{2}$.

FIRST YEAR.—TRIGONOMETRY AND ALGEBRA.

FRIDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D. / G. H. CHANDLER, M.A.

Assistant Examiner, ... H. M. TORY, B.A.

Write the answers on two separate sets of papers headed A and B

1. Find the number of radians in the angle of an equilateral triangle

2. Trace the changes of sign in the tangent from 0″ to 540°.

3. Find the values of the sine, cosine, tangent and secant of 60°.

4. Solve the equations :—

(*a*) $5x - \frac{2x - 1}{3} = 1 + 3x + \frac{x + 2}{2} + 7$

(*b*) $a + x + \sqrt{2ax + x^2} = b$

(*c*) $\frac{x}{9} + \frac{y}{8} = 43$; $\frac{x}{8} + \frac{y}{9} = 42$.

5. There is a certain fraction, which, if 1 be added to its numerator, becomes $\frac{1}{3}$; but if 1 be added to its denominator, it becomes $\frac{1}{4}$, what is the fraction ?

6. Reduce to its simplest form

$$\frac{1}{x - 1} - \frac{1}{2(x + 1)} - \frac{x + 3}{2(x^2 + 1)}$$

15

7. Solve the equations

(1) $\frac{1}{1 + x} - \frac{1}{3 - x} = \frac{6}{35}$,

(2) $\sqrt{x} - 7 = \frac{1}{\sqrt{x} + 7}$,

(3) $\begin{cases} \frac{1}{x} + \frac{1}{y} = 2, \\ x + y = 2, \end{cases}$

8. Simplify $x^{\frac{1}{2}} \sqrt[3]{x^{-1} \sqrt{y^3}} \div \sqrt{y} \sqrt[3]{x}$.

9. Show that

(1) $\sin^2\theta + \cos^2\theta = 1$,

(2) $\sin^4\theta + \cos^4\theta = 1 - 2 \sin^2\theta \cos^2\theta$,

(3) $\sin^6\theta + \cos^6\theta = 1 - 3 \sin^2\theta \cos^2\theta$.

10. Make two angles whose sines are $\frac{2}{3}$. Find the cosines of these angles.

11. Given $\cos\theta = \frac{2}{3}$, find $\cos 2\theta$.

SECOND YEAR.

ELEMENTARY MECHANICS.

MONDAY, FEB. 29TH :—MORNING, 11 TO 12.

Examiner, ... ALEXANDER JOHNSON, M.A., LL.D.

1. Explain the modes of measuring forces in the following cases: (*a*) when a blow is given, *e.g.*, a rifle ball striking a large block of wood suspended by a string ; (*b*) when a steady push in one direction is applied to a moveable body, *e.g.*, to a carriage on a perfectly smooth level road ; (*c*) when the same steady push is applied to a body which is prevented from moving.

2. A body weighing 10 pounds placed on a smooth table is attached by a string passing over a smooth pulley to a weight of 4 lbs., which hangs down at the end of the table ; the bodies move; at the end of one second the string snaps suddenly ; how far will the 10 lb. weight move along the table in the following second ? Make the calculation using (1) the *Gravitational* system of units (2) the *Absolute* system.

3. State Newton's Third Law of Motion, illustrate its meaning, and explain a fallacy that is possible when considering the case of a horse drawing a stone by means of a rope.

4. Find the space that a falling body passes through between the 3rd and 5th seconds.

5. Find the resultant of 2 forces of 10 dynes and 15 dynes acting at an angle of 60°.

6. Explaithe n difference between acceleration and velocity.

INTERMEDIATE EXAMINATION.

GEOMETRY—ARITHMETIC.

THURSDAY, APRIL 6TH :—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D. / JOHN COX, M.A. / H. WALTERS, B.A.

Assistant Examiner, ... H. M. TORY, B.A.

[*Write the answers on two separate sets of papers headed A and B respectively to correspond to the questions.*]

A.

1. Construct a regular hexagon containing an area of 10 square feet.

2. Find a third proportional to two given straight lines.

3. The angle between a tangent to a circle and a chord drawn through the point of contact is equal o the angl e in.one of the two segments into which the chord divides the circle.

4. Inscribe a regular pentagon in a circle.

5. Extract the square root of 5.

6. Add together $2\frac{1}{2}$, $3\frac{1}{4}$, 5.02 and 3.71 ; divide the sum by the quotient of .06 divided by .003.

B

7. If two straight lines cut one another within a circle, the rectangle contained by the segments of one of them is equal to the rectangle contained by the segments of the other.

The circumference of one circle passes through the centre of another circle. If from any point in the circumference of the former circle two straight lines be drawn to touch the latter, prove that the straight line joining the points of contact is bisected by the common chord of the two circles.

8. The sides about the equal angles of triangles which are equiangular to one another are proportionals.

A B C D is a quadrilateral of which the sides *A B*, *C D* are parallel ; prove that the line joining the middle points of *A B*, *C D* passes through the intersection of the diagonals *A C*, *B D*.

9. Inscribe a circle in a given triangle. Describe a circle to touch each of two given lines and having its centre at a given distance from a third given line. How many such circles can be described?

10. Divide a given straight line into seven equal parts.

11. Calculate the velocity of sound in dry air at temperature 15° *C* from the formula

$v = 10\sqrt{1.41 \times (1 + .00366\ t) \times 7.838}$ centimetres, where this the temperature. Express this in feet, having given that one foot = 30.4797 centimetres.

12. Two bicyclists ride round a track at the rates of 18 and 15 miles an hour respectively, and the slower is passed by the quicker every 6 minutes. How many times an hour would they meet if they went round in opposite directions, and how far is it round the path?

INTERMEDIATE EXAMINATION.

TRIGONOMETY—ALGEBRA.

FRIDAY, APRIL 7TH :—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D.
JOHN COX, M.A.
H. WALTERS, B.A.

Assistant Examiner, ... H. M. TORY, B.A.

[*Write the answers on separate sets of papers headed A and B respectively to correspond to questions.*]

A.

1. At a horizontal distance of 170 feet from the bottom of a steeple, the angle of elevation of its top was 53° 20′, calculate the height of the steeple.

2. From the summit of light-house 85 feet high, standing on a rock, the angle of depression of a ship was 3° 38′ and at the bottom of the light-house the angle of depression was 2° 43′, find the horizontal distanc of the vessel.

3. Prove $\tan(A + B) = \dfrac{\tan A + \tan B}{1 - \tan A \tan B}$

4. A man bought a number of sheep for $470; he lost 7 of them and then sold one-fourth of the remainder at the original price for $100. How many sheep had he at first?

5. Solve the equations :—

(*a*) $\dfrac{x+2}{x-1} - \dfrac{4-x}{2x} = 2\frac{1}{8}$;

(*b*) $y + \dfrac{x}{2} = 41$; $x + \dfrac{z}{4} = 20\frac{1}{2}$; $y + \dfrac{z}{5} = 34$;

(*c*) $\dfrac{x}{12} - \dfrac{1}{8}(8 - x) - \dfrac{1}{4}(5 + x) + \dfrac{11}{4} = 0.$

6. Find the Highest Common Factor of
$6a^3 - 6a^2y + 2ay^2 - 2y^3$ and $12a^2 - 15ay + 3y^2$.

B.

7. Explain how logarithns can be used to extract the roots of numbers Find the fifth root of 6.4, having given

$$\log 2 = .30103$$
$$\log .14495 = \bar{1}.1612182$$
$$\log .14496 = \bar{1}.1612482$$

8. Find expressions for the sine and cosine of the sum of two angles in terms of the sines and cosines of those angles.

Prove that (*a*) $\dfrac{1-\cos 2A}{1+\cos 2A} = \tan_2 A$

(*b*) $\dfrac{\sin 2A}{1+\sin 2A} = \dfrac{2}{(1+\tan A)(1+\cot A)}$

9. Prove that in any triangle

$$\cos A = \frac{b^2+c^2-a^2}{2bc}.$$

The sides of a triangle are 3127, 4218, and 5743 feet, respectively. Find its greatest angle, and the area of the triangle.

10. Find the Greatest Common Measure of

$$2x^3+x^2-x-2 \text{ and } x^5-x^3-2x^2+2x$$

and simplify $\dfrac{1-\frac{y}{x}+\frac{y^2}{x^2}}{1+\frac{y}{x}+\frac{y^2}{x^2}} \times \dfrac{\frac{x^3}{y^3}-1}{\frac{x^3}{y^3}+1} \div \dfrac{\left(\frac{1}{x}-\frac{1}{y}\right)^2}{\left(\frac{1}{x}+\frac{1}{y}\right)^2}.$

11. Solve the equations

(*a*) $\dfrac{3}{4}x-\dfrac{5}{8}y=-1\,;\ \dfrac{5}{6}x+\dfrac{y}{4}=14$

(*b*) $\dfrac{5x-7}{9}+\dfrac{14}{2x-3}=x-1$

(*c*) $\sqrt{3x+1}-\sqrt{4x+5}+\sqrt{x-4}=0$

12. A man takes five times as long to run a quarter-mile as he does to run a hundred yards; but if he could run the quarter mile at the same pace as the hundred yards he would do it in $6\frac{3}{5}$ seconds less time. How long does he take to run each?

THIRD YEAR.

MECHANICS—HYDROSTATICS

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D. / JOHN COX, M.A.
Assistant Examiner, ... A. R. JOHNSON, B.A.

Write the answers on two separate sets of papers headed A and B respectively to correspond to the questions.

A

1. A uniform bar 4 feet long weighs 10 lbs., and weights of 30 lbs. and 40 lbs. are suspended from its two ends: calculate how far from the centre of the bar the fulcrum must be placed to produce equilibrium.

2. Find the ratio of the Power to the Resistance in the Inclined Plane when the Power is parallel to the Plane.

3. A ship sails due north at the rate of 4 knots an hour, and a ball is rolled towards the east across her deck at right angles to her motion, at the rate of 10 feet per second. Find the magnitude f the velocity resulting from these two motions.

4. The upper side of a sluice gate is $10\frac{1}{2}$ feet beneath the surface, its dimensions are 3 feet vertical by 18 inches horizontal; calculate the pressure upon it in tons.

5. State Dalton and Gay. Lussac's law for the effect of heat on gase and prove the formula $V' = V \frac{460 + t'}{460 + t}$.

6. Explain the principle of action in the siphon, and find the force causing the liquid to flow. When will the flow cease?

B

7. If three forces acting on the same point be in equilibrium, state and rove a theorem expressing the ratios of the forces by means of the angles between their directions.

(*a*) A weight of 27 cwt. is suspended by a rope 35 feet long. It is pulled aside and held by a horizontal cord, so that it is 28 feet from the vertical line through the point of suspension. Find the tensions of both cords.

8. A body moving from rest with uniform acceleration f passes over a space s. Prove that the velocity acquired is given by $v^2 = 2fs$.

The space described by a body in he fifth second of is fall from rest was to the space described in he las second bu two as 9 to 11. For how many seconds did the body fall?

9. Distinguish between Force, Work, Energy.

A cannon-ball of 640 lbs. weigh traverses he ube of a gun in $\frac{1}{300}$ of a second, and leaves it with a velocity of 1200 feet per second. Calculate (1) the length of the gun, (2) the average pressure exerted by the powder on the ball, (3) the energy of the ball in foot-pounds.

10. What do you understand by *centrifugal force*? Prove by means of the "hodograph" that $f = \frac{v^2}{r}$.

11. Define Specific Gravity, and explain how Specific Gravities may be determined by means of Hydrostatic Balance.

Archimedes weighed Hiero's crown, and equal weights of of gold and silver in water. If he crown lost $\frac{1}{14}$, the gold $\frac{4}{77}$, and the silv $\frac{2}{21}$p of the common weight, in wha proporion were gold and silver mixed in the crown?

12. If the water barometer stand at 34 feet, how deep must a diving bell be sunk, so that the water may fill one-third of it?

THIRD YEAR—ASTRONOMY AND OPTICS.

FRIDAY, APRIL 8th:—MORNING, 9 to 12.

Examiners, ... { ALEXANDER JOHNSON, M.A., LL.D.
JOHN COX, M.A.

Assistant Examiner, ... A. R. JOHNSON, B.A.

Write the answers on two separate sets of papers headed A and B respectively to correspond to the questions.

A

1. Explain the phases of the Moon.

2. Explain the cause of a total eclipse of the moon, stating which side, the Eastern or Western, first enters into the shadow and why. Explain the difference between the *umbra* and penumbra.

3. Explain the cause of the changes of the seasons.

4. The focal length of a concave mirror is a mean proportional between the distances of the conjugate foci from the principal focus.

5. If a ray of light falls nearly perpendicularly upon a thin prism, prove that the deviation produced is equal to the number μ—1 multiplied into the angle of the prism.

6. Define the centre of a lens and find it. What use is made of this point in optics ?

B

7. From the laws of reflection of light, explain how a plane mirror forms an image of an object in front of it.

Shew how a man can see himself full-length in a plane vertical mirror only half his height, if it is properly placed.

8. Investigate a formula connecting the distances of a luminous point and its image from the lens which forms the image, having given the focal length of the lens.

It is desired to form an image of a narrow slit upon a screen distant 90 centimetres from the slit. The only convex lens available has a focal length of 20 centimetres. Show that there are two positions in which the lens may be placed, and find them.

9. Describe the Astronomical Telescope, tracing a pencil of rays from a distant point through the lenses.

10. Distinguish between *double* and *binary* stars; and between *temporary* and *variable* stars. What explanations have been suggested for the two latter cases ?

11. What reasons can you adduce for believing that the earth turns on its axis ?

12. Explain the cause of the Tides. What is the cause of Spring and Neap Tides

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B.A. ORDINARY EXAMINATION.

MECHANICS—HYDROSTATICS.

THURSDAY, APRIL 7th;—MORNING, 9 TO 12.

Examiners,..... { ALEXANDER JOHNSON, M.A., LL.D.
JOHN COX, M.A.
H. WALTERS, B.A.

Assistant Examiner,..... A. R. JOHNSON, B.A.

Write the answers on two separate sets of papers headed A and B respectively to correspond to the questions.

A

1. Assuming that the length of the earth's equatorial radius is 20,923,596 feet, the number of seconds in a sidereal day 86,164, and g (at the Equator) = 32.088, prove that the force of the earth's attraction is 289 times the centrifugal force at the equator.

2. Calculate the value of g at London from the observed fact that the length of a pendulum beating seconds is 39.139 inches.

3. Find the centre of gravity of a homogeneous thin plate, cut into the form of a triangle.

4. The volume of the receiver and leading-tube of an air-pump is three times that of the pump, calculate the elastic force of the air in the receiver after the tenth stroke, the height of the barometer being 30 inches.

N B.—Explain the principles of the calculation as you proceed or prove any formula you employ.

5. The diameter of the piston of a suction pump is 3 inches, the height of the water in the head of the pump is 20 feet above the well, calculate the pressure on the piston.

A piece of lead whose weight is 511.65 grams weighs in water 466.57 grams, find its specific gravity, explaining your work step by step.

B

7. Show how to find the resultant of any number of forces acting at a point.

Forces of 2, 3, 4, 5, 6 lbs. act from one corner of a regular hexagon towards the others in order. Find their resultant.

8. Find the relation between the Power and the Weight in the case of (*a*) the single movable pulley, (*b*) the inclined plane when the string is parallel to the plane.

A barrel weighing 5 cwt. is lowered by a rope into a cellar, 9 ft. deep, down a pair of sloping planks, each 15 feet long, on which its ends roll. One end of the rope is fastened at the top of the planks, and it is then passed under the barrel and gradually paid out. What force must be exerted by the man who holds the rope?

9. Prove that the space described by a body falling from rest is given by $s = \frac{1}{2} g^2$.

A stone falls for one second and then breaks a pane of glass, by which it loses one quarter of its velocity. How far will it descend in the next two seconds?

10. Define *Mass*, *Weight*, *Acceleration*.

A one-pound weight is placed on a smooth level table and attached by a fine string to a weight of $\frac{1}{16}$ of an ounce which hangs vertically at a height of two feet six inches above the floor. Find the acceleration of the system assuming the acceleration of gravity to be 32.2. Hence find the velocity with which the small weight will strike the floor. Find this latter also from the consideration that the energy of the system is equal to the work done upon it by gravity.

11. State Boyle's law and describe an experiment for proving it.

A cylindrical diving bell 10 feet high is sunk to a certain depth, and the water rises 2 feet in the bell. As much air is then pumped in as would fill $\frac{67}{440}$ of the bell at atmospheric pressure, and the surface of the water sinks through 1 foot. Find the depth of the top of the bell and the height of the water-barometer.

12. Describe the process of finding the specific gravity of a body by means of the Hydrostatic Balance.

A bullet of lead, specific gravity 11.4, weighs 1.09 ozs. in air and 1.02 in olive oil. Determine the specific gravity of the oil.

B.A. ORDINARY EXAMINATION.

ASTRONOMY—OPTICS.

FRIDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiners,..... ALEXANDER JOHNSON, M.A., LL.D.
JOHN COX, M.A.
H. WALTERS, B.A.

Assistant Examiner,..... A. R. JOHNSON, B.A.

Write the answers on separate sets of papers headed A and B respectively to correspond to the questions.

A

1. Assuming the earth to be a sphere 8000 miles in diameter, find the distance in miles between two places on the same meridian whose latitudes are 44° 20′ N and 45° 30′ N.

(*a*) Explain the mode of determining the diameter of the Earth.

2. Explain the mode of finding the distance of Mercury from the Sun by means of his greatest elongation.

3. From the following data calculate the length of the Earth's shadow, in terms of the earth's radius, explaining the process:—

Mean diameter of the Sun, seen from the Earth = 1923″
" " Earth " " Sun = 17″

When do we get into the Earth's shadow?

4. Assuming the refractive index of crown glass to be 1.55 and the refractive indices of the extreme red and violet rays to be $\frac{7}{5}\frac{7}{0}$ and $\frac{7}{5}\frac{8}{0}$, find its *dispersive power*, defining this latter term.

5. indF the dispersion produced by a convex lens of crown glass of $2\frac{3}{4}$ inch aperture and 3 ft. focal length.

6. Light diverging from a point 100 feet distant falls upon a concave mirror of 10 inches radius: find the conjugate focus.

B

7. A bright point is placed in the angle between two plane mirrors at right angles to each other. Show that its image formed by two reflections one in each mirror, is in a line drawn from the point through the intersection of the mirrors.

On looking with both eyes into the angle between two such mirrors only one eye is seen, which closes whether you close right or left eye. Explain this.

8. Describe the Newtonian Telescope.

9. A person whose distance of distinct vision is $4\frac{1}{2}$ inches chooses spectacles which enable him to read most easily at a distance of 11 inches. What is their focal length?

10. Explain the terms Parallax and Horizontal Parallax. Find an equation connecting them.

If the distance of the Moon is 237,640 miles and the earth's radius 3963 miles, what is the horizontal parallax?

11. Taking the periodic time of the earth to be 365.25 days, and the synodic period of Venus to be 583.5 days, calculate the periodic time of Venus.

13. Explain the method of determining the latitude at sea by observation of the Sun's meridian altitude.

B. A. AND THIRD YEAR.

EXPERIMENTAL PHYSICS:—LIGHT AND HEAT.

TUESDAY, APRIL 5TH:—MORNING, 9 TO 12.

Examiners,.... ..... { ALEXANDER JOHNSON, M.A., LL.D. / JOHN COX, M.A.

Write the answers on two separate sets of papers, headed A and B respectively to correspond to the questions.

A

1. Rankine in his "Civil Engineering" says that cast iron expands in linear dimensions by about $\frac{1}{9\,0\,0}$th in rising from the freezing to the

boiling point of water, or about .0004 for the range of temperature which is usual in the British climate : hence find

1°. The coeff of linear expansion for 1° Fah.

2°. The range of temperature referred to.

3°. The expansion from—40° to + 100° Fah.

4°. The co-efficient of cubical expansion (proving the approximate rule).

2. Find the weight of steam at 100°C necessary to raise the temperature of 208 lbs. of water from 14°C to 32°C.

3. Define, and state the numerical values of the "Mechanical equivalent" of heat.

Describe any of Joule's experiments in investigating it.

4. Describe Newton's experiment with crossed prisms on the colors of the spectrum. What did it prove?

5 What is the theoretical difference between a ray of plane polarised light and a ray of common light.

6. How has the velocity of light been ascertained by observations on Jupiter's Satellites?

B.

7. Describe in detail the construction and graduation of a mercury thermometer.

8. State what you know of the behaviour of a vapour in contact with its liquid when subject to changes of volume and temperature. Would you draw any distinction between a vapour and a gas? Explain the terms *saturation, critical point.*

The pressure of aqueous vapour in millimetres is at

12° - - -	10.457
15° - - -	12.699
18° - - -	15.357

If equal masses of saturated air at 12° and 18° be mixed, what percentage of the vapour they contain will be precipitated?

9. Explain briefly the action or use of

(*a*) The Cryophorus.
(*b*) The Pyrheliometer.
(*c*) The Radiometer.
(*d*) The Indicator Diagram.

10. Give a careful account of *one* of the following:

a) Forbes' method of studying the conductivity of wrought iron.

(b) Prévost's Theory of Exchanges.

(c) Carnot's reversible engine, proving that such an engine is theoretically perfect.

11. What is meant by Interference of Light? Shew how it accounts for the phenomena of the Diffraction Grating, and of Newton's Rings. How is it that in Newton's Rings we find the dark bands formed where the thickness of the film is equal to an *even* number of half-wave lengths?

12. Distinguish between Fluorescence and Phosphorescence, giving Stokes' dynamical explanation of the facts. Do you regard Calorescence as analogous?

HONOUR EXAMINATIONS.

FIRST YEAR—GEOMETRY (*First Paper*).

SATURDAY, MARCH 26TH:—2 TO 5 P. M.

Examiner,..... ....ALEXANDER JOHNSON, M.A., LL.D.

1. Given the base of a triangle, the vertical angle, and the sum or difference of sides; construct the triangle.

2. In a given circle inscribe a triangle having its base parallel to a given line and its two sides passing through two given points, not both situated on a line parallel to the given line.

3. If a point on the circumference of a circle be joined to the three angles of an inscribed equilateral triangle, the straight line drawn to the remote angle is equal to the sum of the other two.

4. Describe a circle touching a given circle, passing through a given point, and having its centre in a given straight passing through this point.

5. Given a straight line and two points on the same side of it; find a point in the given line at which the two given points shall subtend a *maximum* angle.

6. Given base, sum of sides, and difference of base angles, construct the triangle.

7. If perpendiculars be drawn from any point on the circumference of a circle to two tangents and their chord of contact, the square of the perpendicular to the chord is equal to the retangle under the other two perpendiculars.

8. A triangle is given in species, one vertex turns round a fixed point, while another vertex moves along the circumference of a given circle; find the locus of the third vertex.

9. To a given triangle describe a parallelogram of given area.

10. The rectangle under the diagonals of a quadrilateral inscribed in a circle is equal to the sum of the rectangles under its opposite sides.

11. Through a given point within a circle draw the shortest chord.

12. Produce a given line both ways, so that the rectangles under the parts into which the whole produced line is divided by the extremities of the finite line shall be equal to given squares.

HONOUR EXAMINATIONS.

FIRST YEAR.

GEOMETRY—(*Second Paper*).

SATURDAY, APRIL 2ND :—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, M.A., LL.D

1. Give a system of three co-axal circles: if from any point on one, tangents be drawn to the other two, these tangents will be in a constant ratio.

2. If two tangents be drawn to a circle, any third tangent will be cut harmonically by the two former and by the chord joining their points o contact.

3. If two circles touch three given circles, the points of contact being of the same kind, the pole of that axis of similitude of the three circles, which is also the radical axis of the two, with respect to any of the three circles lies in the chord of contact of that circle.

4. If a point move along a fixed straight line, its polar always passes through a fixed point, viz., the pole of the fixed line; and if a straight line always pass through a fixed point, its pole always lies on a fixed straight line, viz., the polar of the fixed point.

5. Describe a circle touching three given circles.

6. If through any point O, on the circumference of a circle, any three chords be drawn, and on each, as diameter, a circle be described, these three circles will intersect in three other points, which lie in one straight line.

7. If through either of the limiting points of a system of circles having a common radical axis, a straight line be drawn intersecting any circle of the system, and if perpendiculars be drawn from the points of intersection to the radical axis, the rectangle under the perpendiculars is constant.

8. The radical axes of each pair of a system of three circles meet in a point.

9. The anharmonic ratio of four fixed points on a circle is constant.

10. Through a given point, without two given straight lines, any transversal is drawn and a point taken on it, such that the reciprocal of its distance from the given point is equal to the sum of the reciprocals of the intercepts between the given point and the given lines; find the locus of the point of section.

11. If three straight lines drawn through the vertices of a triangle meet in a point, and if the points in which these lines meet the opposite sides be joined, the joining lines meet the opposite sides in three points which are in the same straight line. Show that this is true, whether the point of meeting be inside or outside the triangle.

12. Any transversal is drawn at random across, four concurrent lines cutting them in points denoted in order by A, B, C, D; prove that the ratio of the rectangle $AD.BC$ to AB, CD is constant, all points on the same line being denoted always by the same letter of the alphabet.

HONOUR EXAMINATIONS.

FIRST YEAR.—ALGEBRA.

WEDNESDAY, APRIL 6TH:—MORNING, 9 TO 12.

Examiner, ... ALEXANDER JOHNSON, M.A., LL.D.

1. Define *permutations*. Find the number of permutations of n dissimilar things taken r at a time.

2. Fourteen men are competing for eleven places, how many possible combinations of successful candidates are there.

3. Prove the Binomial Theorem for a positive integral index.

4. Expand a^x in ascending powers of x.

5. State and prove the theorem of Indeterminate Co-efficients.

6. Resolve into partial fractions $\frac{7x-1}{1-5x+6x^2}$.

6. Find the three cube roots of unity.

8. If $a\ b\ c$, etc., be the roots of the equation $f(x) = 0$ prove

$$f(x) = \frac{f'(x)}{x-a} + \frac{f'(x)}{x-b} + \frac{f'(x)}{x-c} + \text{etc.}$$

9. Find the sum of the squares of the roots of the equation

$$x^3 - px^2 + qx - r = 0.$$

10. One root of the following equation is half the sum of the other two find the roots.

$$18x^3 + 81x^2 + 121x + 60 = 0.$$

11. Solve the equation $3x^4 - 10x^3 + 4x^2 - x - 6 = 0$ one root being $\frac{1+\sqrt{-3}}{2}$

12. If the expression $f(a)$ and $f(b)$ have contrary signs, an odd number of roots of $f(x) = 0$ lie between a and b.

HONOUR EXAMINATIONS.

SECOND YEAR.

ANALYTIC GEOMETRY—(*First Paper*).

THURSDAY, MARCH 17TH:—AFTERNOON, 2 to 5.

Examiner,..... .... ALEXANDER JOHNSON, M.A., LL.D.

1. In trilinear co-ordinates verify that $\alpha\beta - \gamma^2 = 0$ represents a circle if, $A = B$.

2. Prove that the equation of the circle circumscribing the triangle formed by the lines $\alpha = 0, \beta = 0, \gamma = 0$ is

$$\beta\gamma \sin A + \gamma\alpha \sin B + \alpha\beta \sin C = 0.$$

3. If through a fixed point O any chord of a circle be drawn, and OQ taken an harmonic mean between the segments OP and OP' find the locus of Q.

4. Find the condition that the intercept made by the circle on the lin

$$x \cos \alpha + y \sin \alpha = p.$$

should subtend a right angle at the point $x^1\ y^1$.

5. Prove by trilinear co-ordinates that if from the angles of a triangle three lines be drawn which are concurrent, and another triangle be formed by joining the points where these lines cut the sides, then the intersections of the sides of this second triangle with the opposite sides of the first triangle are collinear.

6. Taking a fixed line whose equation $\cos \theta \phi = m$ each radius vecto (*O P*) to it is produced, and the produced line *P Q* is made of constant length find the locus of *Q*.

7. Given the vertical angle of a triangle, find the locus of the point where the base is cut in a given ratio if the area is also given.

8. If the coefficients in the equation $A x + B y + C = 0$ be connected by the relation $a A + b B + c C = 0$, (where *a*, *b*, *c* are constant, and *A*, *B*, *C* may vary) the line represented by this equation will always pass through a fixed point.

9. Find the equation of the line joining the origin to the intersection of

$$A x + B y + C = 0. \quad A'x + B'y + C' = 0.$$

10. Find the equation of the line bisecting the angle between the two lines

$$x \cos \alpha + y \sin \alpha - p = 0 \text{ and } x \cos \beta + y \sin \beta - p = 0.$$

11. Given the points (2, 3,) (4,—5), (—3,—6) form the equations of the bisectors of the sides of the triangle made by joining them.

a. Prove that the bisectors meet in a point.

12. The sides of a triangle being taken for axes, form the equation of the line joining the points which cut off the m^{th} part of each, and show that it is parallel to the base.

HONOUR EXAMINATIONS.

SECOND YEAR.

ANALYTIC GEOMETRY—(*Conic Sections*).

SATURDAY, MARCH 26TH:—2 TO 5 P.M.

Examiner,.....ALEXANDER JOHNSON, M.A., LL D.

1. Find the locus of the points of contact of tangents to a series of confocal ellipses from a fixed point on the axis major.

2. A triangle *ABC* circumscribes a circle; the angle at *C* is given, and *B* moves along a fixed line; find the locus of *A*.

3. Find the length of the perpendicular from the focus of a parabola on the tangent.

4. Find the parameter of the parabola

$$\frac{x^2}{a^2} - \frac{2xy}{ab} + \frac{y^2}{b^2} - \frac{2x}{a} - \frac{2y}{b} + 1 = 0$$

5. The sum of the reciprocals of two focal chords of an ellipse at right angles to each other is constant.

6. Find the angle subtended at the focus of an ellipse by the tangent drawn to it from any point; and thence prove that the line joining the focus to the pole of any chord passing through it is perpendicular to the chord.

7. The rectangle under the segments of the normal to an ellipse is equal to the square of the semi-conjugate diameter.

8. Assuming the equation of an hyperbola referred to its axes, find, by transformation of co-ordinates, its equation referred:

1° to a pair of conjugate diameters (define these).

2° to its asymptotes.

9. Give Boole's proof that in transforming from axes at an angle ω, to others at an angle Ω, the following quantities remain unaltered, viz.:

$$\frac{a + b - 2h \cos \omega}{\sin^2 \omega} \quad \text{and} \quad \frac{ab - h^2}{\sin^2 \omega}$$

(*a*) Hence show that the sum of the squares of the reciprocals of two semi diameters of a central conic section at right angles to each other is constant.

10. The squares of the ordinates of any diameter of a conic section are proportional to the rectangle under the segments which they make on the diameter.

11. If a quadrilateral be inscribed in a conic section, and be made "complete," the intersection of the two diagonals is the pole of the line joining the two intersections of the produced sides.

12. Find the locus of the middle points of chords of any conic, given by the general equation parallel to a given line.

HONOUR EXAMINATIONS.

SECOND YEAR—CALCULUS.

MONDAY, APRIL 11TH:—AFTERNOON. 2 TO 5.

Examiner,.....ALEXANDER JOHNSON, M.A., LL.D.

1. Distinguish between differential and differential coefficient, defining the latter as a limit. Find the differential coefficients of the product and of the quotient of any two functions of x.

2. Find the differential coefficients in the cases of $\cos x$, $\cos^{-1} x$, $\log x$. In one of the results there is an ambiguity of sign, explain this.

3. Differentiate

$$y = \sin^{-1}\frac{3+2x}{\sqrt{13}}; \quad y = \log\frac{(1+x^2)^{\frac{1}{4}}}{(1+x)^{\frac{1}{2}}} + \tfrac{1}{2}\tan^{-1} x$$

$$y = \sin(\log x)$$

4. Show that when one side of a right-angled triangle is regarded as an infinitely small quantity of the first order, the difference between the hypotenuse and the remaining side is an infinitely small quantity of the second order.

5. State and prove Leibinitz's theorem for finding the n^{th} differential coefficient of the product of two functions of x.

6. Expand $\tan^{-1} x$ by MacLaurin's theorem.

7. Find the value, when $x = n$, of

$$\frac{\cos x\,\theta - \cos n\,\theta}{(x^2 - n^2)^r}$$

8. Find the integrals :—

$$\int \sin^2 x\,dx, \quad \int \tan^2 x\,dx, \quad \int \sin mx \sin nx\,dx.$$

9. Find

$$\int \frac{(x\cos\theta - 1)\,dx}{x^2 - 2x\cos\theta + 1}$$

10. Find

$$\int \frac{d\theta}{a + b\cos\theta}; \quad \int e^{ax}\sin mx\,dx; \quad \int \frac{\sin^{-1} x\,dx}{(1-x^2)^{\frac{3}{2}}}$$

11. Find the value of $\int_0^a \frac{dx}{a^2 + x^2}$

12. Find $\int \frac{x\,dx}{x^2 + 2x - 3}$

B. A. HONOUR EXAMINATIONS
IN MATHEMATICS AND NATURAL PHILOSOPHY.

SURFACES.

THURSDAY, MARCH 17TH :—AFTERNOON, 2 TO 5.

Examiner..... .... ALEXANDER JOHNSON, M.A., LL.D.

1. Show that the equation of the surface generated by the revolution of the circle $y=o$, $(x-a)^2 + z^2 = r^2$ round the axis of z is

$$(x^2 + y^2 + z^2 + a^2 - r^2)^2 = 4a^2 (x^2 + y^2).$$

Discuss the sections of this surface by planes parallel to the axis.

2. Find the equation of the developable generated by the tangents of a helix.

3. Along a line of curvature the variation in the angle between the tangent plane to the surface and the osculating plane to the curve is equal to the angle between the two osculating planes.

4. If two surfaces cut at right angles, and if their intersection be a line of curvature on one, it is also a line of curvature on the other.

5. Through a point on a surface can be drawn $(n + 2)$ $(n-3)$ tangents which will also touch the surface elsewhere.

6. If D be the diameter of a quadric parallel to the tangent line at any point of its intersection with a confocal quadric, and p the perpendicular on the tangent plane at that point, then p. D is constant for every point on that curve of intersection.

7. The focal lines of a cone are perpendicular to the circular sections of the reciprocal cone.

8. Find the equation of the cone whose vertex is the centre of an ellipsoid and base the section made by the polar of a point x' y' z'.

9. Find the locus of a point whose shortest distances from two given non-intersecting right lines are equal.

10. In a quadric any two circular sections of opposite systems lie on the same sphere.

11. If a section of a quadric be made by a plane passing through any point, the polar of that point with regard to the section will be the intersection of the plane of section with the polar plane of the given point.

12. Find the condition of intersection of the two lines

$$\frac{x-x_1}{a_1} = \frac{y-y_1}{b_1} = \frac{z-z_1}{c_1} \text{ and } \frac{x-x_2}{a_2} = \frac{y-y_2}{b_2} = \frac{z-z_2}{c_2}$$

B. A. HONOURS.

THEORY OF ATTRACTION AND POTENTIAL ELECTROSTATICS

MONDAY, MARCH 21ST.—AFTERNOON, 2 TO 5.

Examiner..... ....ALEXANDER JOHNSON, M.A., LL.D.

1. If ∇^2 stand for $\frac{d^2}{dx^2}+\frac{d^2}{dy^2}+\frac{d^2}{dz^2}$

and $d\Omega$ be the element of volume of the space inside any closed surface, while dS is the element of the area and dn the element of the normal to the surface drawn outwards, prove

$$\int V\nabla^2 d\Omega = \int V\frac{dV}{dn}ds - \int\left[\left(\frac{dV}{dx}\right)^2+\left(\frac{dV}{dy}\right)^2+\left(\frac{dV}{dz}\right)^2\right]d\Omega.$$

2. From the above theorem deduce that there cannot oe two of different functions, which both satisfy Laplace's equation at every point of the closed region of space, and which have both the same value at *every* point of the surface or surfaces bounding this region.

3. Prove that the Potential v_0 of a homogeneous ellipsoid at its centre is

$$V_0 = 2\pi\chi\rho abc\int_0^\infty \frac{\lambda\, d\lambda}{\sqrt{(a^2+\lambda^2)(b^2+\lambda^2)(c^2+\lambda^2)}}$$

where $\lambda^2 = c^2\tan^2\theta$.

4. The mean potential over a spherical surface due to matter entirely outside the sphere is equal to the potential of this matter at the centre of the sphere.

5. Supposing that a sphere of water is brought by mutual attraction of particles from a state of infinite diffusion, and that the amount of work done by these forces is sufficient to raise its temperature 1° C, prove that its diameter is about one-fortieth of the Earth's diameter; assuming the radius of the earth to be 637×10^6 cm and Joule's Dynamical equivalent to be 42×10^6 ergs.

6. Explain and prove the equation :

$$\frac{d^2V}{dx^2}+\frac{d^2V}{dy^2}+\frac{d^2V}{dz^2}=0.$$

7. Given the whole mass of a solid, find its shape so that its attraction in any direction on a particle placed at a given point may be a maximum.

8. The law of the inverse square is the only law of attraction for which a spherical shell of uniform thickness and density will produce no resultant attraction on any internal particle.

9. If σ, K and V be respectively the surface density, the specific inductive capacity, and the potential of any charged electrical conductor, prove

$$\sigma = -\frac{K}{4\pi}\frac{dV}{dn}$$

10. Find the work done in the discharge of a Leyden jar.

11. Investigate the formula required for solving the following example and apply it:

An insulated sphere of 4 centimetres radius is electrically charged to the potential 1000, (*a*) calculate the electrical pressure per square centimetre of surface, and (*b*) compare it with that of the atmosphere.

12. Investigate any formula required for solving the following example and apply it:

Two Leyden jars, the internal radii of whose bases are 5 and 10 centimetres respectively, while the heights of their coated surfaces are 20 and 40 centimetres, the thicknesses of the glass being .03 and ·04 centimetres respectively, and the S.I.C. being 1.9, are charged to potentials 6 and 4 respectively; they are then placed on a table and their knobs connected, find the common potential.

B. A. HONOURS.

CALCULUS.

SATURDAY, MARCH 26TH:—2 TO 5 P.M.

Examiner,..... ALEXANDER JOHNSON, M.A., LL.D

1. If X be a rational and integral function of x, prove the symbolical equation

$$f\left(\frac{d}{dx}\right)e^{mx}X = e^{mx}f\left(\frac{d}{dx}+m\right)X.$$

2. If R, S, T, V be functions of x, y, z, p and q, in the partial differential equation

$$Rr+Ss+Tt = V$$

state Monge's method for its solution, and apply it to the equation

$$q(1+q)r-(p+q+2pq)s+p(1+p)t = 0.$$

3. Find a differential equation by

eliminating the arbitrary functions from

$$z = \phi(y + ax) + \psi(y - ax).$$

4. Deduce the complete primitive, when possible, of the differential equation

$$P\,dx + Q\,dy + R\,dz = 0$$

5. Integrate the equation

$$ay\frac{d^2y}{dx^2} + b\left(\frac{dy}{dx}\right)^2 = \frac{y\dfrac{dy}{dx}}{\sqrt{e^2 + x^2}}.$$

6. Integrate the equations

$$\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 13y = 0$$

and

$$\frac{d^4y}{dx^4} + 2n^2\frac{d^2y}{dn^2} + n^4y = 0.$$

7. Integrate Clairant's equation

$$y = xp + f(p)$$

8. If the differential equation of the first order and nth degree be resolved into its component equations

$$\frac{dy}{dx} - p_1 = 0 \quad \frac{dy}{dx} - p_2 = 0 \qquad \&c.$$

and if the complete primitives of these equations are $V_1 = c_1$, $V_2 = c_2$, then the complete primitive of the given equation will be

$$(V_1 - c_1)(V_2 - c) \ldots (V_n - c_n) = 0.$$

9. If V and v are two functions of x and y which satisfy the equation

$$\frac{dV}{dy}\frac{dv}{dx} - \frac{dV}{dx}\frac{dv}{dy} = 0$$

prove that V is expressible as a function of v only.

10. Integrate the equations

$$\left(x - y\cos\frac{y}{x}\right)dx + x\cos\frac{y}{x}\,dy = 0;$$

$$\frac{x\,dx}{1+y} - \frac{y\,dy}{1+x} = 0;$$

11. Integrate the linear differential of the first order and degree

$$\frac{dy}{dx} + Py = Q.$$

12. If O be the vertex or cone standing on dS, the element of any closedsurface, r the angle which the line (r) from O makes with the *internal* normal to the surface, prove

$$\int\int \frac{\cos\gamma \, dS}{r^2} = 4\pi, \text{ or } 2\pi, \text{ or } 0$$

as the origin is inside, on, or outside the surface.

13. If A, B, C are the moments of inertia of a body relative to its three principal axes for any point, prove that the moment of inertia (I) relative to the line whose direction angles are

$$\alpha, \beta, \gamma, \text{ is } I = A\cos^2\alpha + B\cos^2\beta + C\cos^2\gamma.$$

14. Transform the equation

$$x^2\frac{d^2y}{dx^2} + ax\frac{dy}{dx} + by = 0$$

into another in which θ is the independent variable, being given

$$x = e^{\theta}.$$

15. Find the radius of curvature at any point of the curve

$$e^{\frac{y}{a}} = \sec\left(\frac{x}{a}\right)$$

B.A. HONOURS.

MECHANICS (*First Paper*).

THURSDAY, MARCH 31ST:—MORNING, 9 TO 12.

Examiner, ... ALEXANDER JOHNSON, M.A., LL.D.

1. Two spheres of the same diameter, but of different weights, fall freely in air; find the ratio of the maximum velocities they will attain, stating clearly what assumptions you make.

2. If the motion of a conical pendulum be slightly disturbed, prove that the period of a vibration is $\frac{2\pi a}{\sqrt{a^2+3b^2}}\sqrt{\frac{b^2}{g}}$, and the corresponding apsidal angle is $\frac{\pi a}{\sqrt{a^2+3b^2}}$ where b is the distance from the centre to the plane of the conical pendulum.

3. A particle constrained to move in an ellipse is acted on by an attractive force directed to one focus, and a repulsive force from the other whose intensities vary as the inverse square of the distance; if the absolute intensities of the forces be equal, find the pressure on the ellipse at any point during the motion.

4. Two bodies, W and W', hang at rest, being attached to the lower end of a fine elastic string, whose upper end is fixed; supposing one of them W', to drop off, find the subsequent motion of the other.

5. A thin beam, whose mass is M and length $2a$, moves freely about one extremity attached to a fixed point whose distance from a smooth plane is b, $(b < 2a)$; the other extremity rests on the plane, the inclination of which is α. If the beam be slightly displaced from its position of equilibrium, determine the time of its small oscillations.

6. A homogeneous cylinder of weight W is rotating round its axis, supposed horizontal, with an angular velocity ω; find to what height it is capable of raising a given weight P before coming to rest.

7. Show that the time of a small oscillation of a pendulum which vibrates in the air is unaffected by its resistance.

8. An elastic string, uniform in its original state, is placed on any smooth curve and acted on by any given forces; find its extension.

9. An elliptic cylinder is sustained with its axis vertical by three props applied at three points on the circumference of its base; how should the props be placed in order that the cylinder may be least likely to be upset.

10. Six equal uniform bars freely articulated at their extremities form a hexagon. The highest bar is fixed in a horizontal position, and its middle point is connected by a string with the middle point of the lowest bar, in such a manner that the bar hangs in the form of a regular hexagon. Find by a force diagram the tension of the string and directions of the stresses at one and of the lowest bar, and at the next angle.

11. A homogeneous fluid mass, the particles of which attract each other with a force varying directly as the distance, rotates uniformly about an axis through its centre of gravity; required to determine the form of the free surface.

12. Find the centre of pressure on a vertical rectangle exposed to the action of the atmosphere at an equable temperature.

B.A. HONOURS.

LIGHT AND ELECTRICITY.

MONDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, M.A., LL.D.

1. State Fresnel's theory of double refraction, giving the fundamental hypotheses clearly, and investigate the equation of the ellipsoid of elasticity

$$A\,\xi^2 + B\eta^2 + C\,\zeta^2 + 2\,F\,\eta\,\zeta + 2\,G\,\zeta\,\xi + 2\,H\,\xi\,\eta = 1$$

Hence show that there are three directions at right angles to each other in every elastic medium in which the elastic forces act in the direction of the displacement.

2. If v be the velocity of propagation of a plane wave whose vibrations are in the directions α, β, γ, and $\mu_1\ \mu_2\ \mu_3$ be the principal refractive indices, prove

$$v^2 = \frac{a^2}{{\mu_1}^2} + \frac{\beta^2}{{\mu_1}^2} + \frac{\gamma^2}{{\mu_3}^2}.$$

3. In one and the same direction two systems of plane waves are propagated normally, having their vibrations parallel to the axes of the section of the ellipsoid of elasticity by a diametral plane perpendicular to the direction, and the velocities of normal propagation of the two systems are inversely proportional to the lengths of these axes.

4. Investigate mathematically the principle on which Rowland's concave gratings are constructed.

5. Describe the method of obtaining diffraction fringes by Fresnel's biprism, and prove that the distance of the nth fringe from the centre of the system is given by

$$x = \frac{a+b}{2a\,(gal.-1)}\ n\ \frac{\lambda}{a}.$$

6. Give Huyhen's construction for determining the directions of the two refracted rays when double refraction takes place.

7. If L be the coefficient of self induction, R the resistance, I the intensity of the current, E the electromotive force, prove Helmhotz's equation for the discharge of a Leyden jar, viz.:

$$E - IR = L\frac{dI}{dt}.$$

8. If Q be the charge of the Leyden jar, C its capacity prove

$$Q = Q_0 e^{\frac{-Rt}{2L}} \left\{ \frac{1}{2} + \frac{R}{4La} \right\} e^{at} + \left(\frac{1}{2} - \frac{R}{4La} \right) e^{-at} \Bigg\}$$

Where $$a = \sqrt{\frac{R^2}{4L^2} - \frac{1}{CL}}.$$

(*a*) Explain the oscillating discharge of the Leyden jar.

9. If a straight conductor forming part of a closed circuit be carried across lines of magnetic force, the electromotive force of the induced current is $-Hlv$ where H is the member of "lines of force" per unit area, l the length of the conductor, and v the velocity with which it moves parallel to itself.

10. Investigate the strength of field due to a solenoid.

11. A current of 10 ampères circulates for 5 minutes through a wire whose resistance is 9·536 ohm. Find the amount of heat developed in this wire.

12. In a certain tangent galvanometer the radius of the coil was 21 centimetres and the wire made 21 turns. Find the intensity of the electromagnetic force at the centre of the ring, when a current of 3 ampères was circulating through it. Prove any formula you employ.

B. A. HONOURS.

ASTRONOMY.

THURSDAY, APRIL 7TH :—MORNING, 9 TO 12.

Examiner,..... ALEXANDER JOHNSON, M.A , LL.D.

1. Investigate the general differential equation of refraction :—

a. State Simpson's assumption, and thence obtain his formula of refraction.

b. From Simpson's formula derive Bradley's.

2. Find the contraction produced by refraction, of a semi-diameter of the moon which makes an apparent angle θ with the vertical.

3. Investigate a formula for determining the parallax of a heavenly body by meridian observations, explaining the method.

4. Assuming the constant of aberration to be 20″.45 find a formula for determining the aberration of a star in latitude.

5. If in a lunar eclipse, m and p be the moon's horary motion in longitude and latitude respectively, s the sun's horary motion in longitude λ the latitude of the moon at the instant of opposition, r the distance of the centres of the moon and of the shadow prove

$$r = \sqrt{(\lambda - p\,t)^2 + (m - s)^2\,t^2}$$

6. How may we ascertain the places on the earth where (1) the beginning of a lunar eclipse is visible, (2) the ending, (3) all the circumstances are visible.

7. Explain the mode of finding the longitude of a place by moon-culminatory stars.

8. State the elements of a planet's orbit, and show how they enable us to determine the position of the planet at any instant.

9. Find when Venus is brightest.

10. Show that neglecting the change of declination the curve traced out by the end of the shadow of a vertical rod on a horizontal plane will be a conic section.

11. Investigate a formula for determining the sun's azimuth at a given time of a given day.

12. Prove the relation between the mean and the eccentric anomalies.

$$n\,t = u - e\,\sin u$$

B. A. HONOURS.

MECHANICS (*Second Paper*)—RIGID DYNAMICS.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,..... ....ALEXANDER JOHNSON, M.A., LL.D.

1. If a rigid body, having a point of it fixed, be in motion, and no forces are acting on it, prove that:—

1°. The angular velocity at any instant is proportional to the intercept on the instantaneous axis of rotation through the centre of inertia cut off by the momental ellipsoid.

2°. The component of the angular velocity round the momentum axis through the centre of inertia is constant.

2. If two of the principal moments of the body referred to in (1) be equal, prove that:—

1°. The simultaneous positions of the momentum axis and the instantaneous axis of rotation lie in a plane containing the axis of unequal moment of inertia.

2°. The instantaneous axis and the momentum axis describe about the body right circular cones whose semi-angle are i and k, where

$$\tan^2 i = \frac{C}{A}\frac{H^2 - CS}{AS - H^2}, \quad \tan^2 k = \frac{A}{C}\cdot\frac{H^2 - CS}{AS - H^2}$$

the axis of unequal moment being the axis of z.

3. A free body is set in motion by an impulse. If the initial motion be a pure rotation, show that the directions of the impulse and of the instantaneous axis of rotation are principal axes of a section of the momental ellipsoid relative to the centre of inertia.

4. Prove that the perpendicular on the tangent plane to the ellipsoid of gyration is given by the equation

$$p^2 = \frac{S}{mw^2}$$

5. If a hoop roll down an inclined plane without sliding, show that $\tan i < 2\mu$; the initial position of the hoop being in a vertical plane at right angles to the intersection of the inclined plane with the horizon.

6. Assuming that the Earth's orbit is circular, show that its motion both of translation and of rotation, could be destroyed by a sudden impulse applied when the Earth is in a solstice.

a. Supposing the Earth a homogeneous sphere, calculate the distance from the Earth's centre of the line of action of the required impulse.

7. In Atwood's machine, if the pulley be not perfectly rough, and slipping takes place, determine the motion, the weight of the rope and the friction of the pulley on the axle being neglected.

8. If a body receive in a given order finite rotations round two parallel axes *fixed in the body*, determine the single rotation which would bring the body into the same position.

9. Prove Carnot's Theorem that if any system of smooth imperfectly elastic bodies having a common coefficient of restitution collide, the loss of vis viva is

$$\frac{1-e}{1+e}\,\Sigma m\left\{(u-u^1)^2+(v-v^1)^2+(w-w^1)^2\right\}$$

where e is the coefficient of restitution, m the mass of the any particle, and u', v', w', u, v, w the components of its velocity before and after the shock.

10. An inelastic beam, capable of moving in a vertical plane about a fixed horizontal axis through one end, falls from a given position, and impinges against an immovable obstacle, determine the shock on the axis.

11. Compare the times in which a circular plate will vibrate round a horizontal tangent and round a horizontal axis, through the point of contact, at right angles to the tangent.

12. A string lying in the form of a circle on a smooth table is revolving like a wheel: find the tension of the string.

B.A. HONOURS.

LUNAR THEORY.—NEWTON'S PRINCIPIA.

TUESDAY, APRIL 12TH:—MORNING, 9 TO 12.

Examiner,..... .... ALEXANDER JOHNSON, M.A., LL.D.

1. Investigate the differential equation of the moon's radius vector.

$$\frac{d^2u}{d\theta^2} + u = \frac{P}{h^2u^2} - \frac{T}{h^2u^3}\frac{du}{d\theta} - 2\left(\frac{d^2u}{d\theta^2} + u\right)\int\frac{T}{h^2u^3}\,d\theta$$

2. Describe the process of integration of the differential equations of the moon's motion, noticing any caution to be observed; and investigate the rule for the retention of terms of the higher orders when seeking an approximate solution of the equations to any given order.

3. After obtaining the solution, to the first order, of the equation in question 1,

$$u = a\left\{1 + e\cos(\theta - \alpha)\right\}$$

we are obliged to modify it before proceeding to the next approximation. Explain why, and state the hypothesis involved in the modification employed. Show that this modification might have been suggested by a proposition in the Principia.

4. Calculate the values of P and T to the second order and thence explain the physical meaning of the last three terms taken together.

$$\frac{P}{h^2u^2} = a \begin{cases} 1 - \frac{3}{4}k^2 + \frac{3}{4}k^2 \cos 2(g\theta - \gamma) - \frac{1}{2}m^2[1 + 3\cos(2-2m)\theta - 2\beta] \\ - \frac{3}{2}m^2e' \cos(m\theta + \beta - \zeta) + \frac{3}{2}m^2e \cos(c\theta - a) \end{cases}$$

$$+ \tfrac{9}{4}m^2e \cos\{(2 - 2m - c)\theta - 2\beta + a\}$$

$$\frac{T}{h^2u^3} = -\tfrac{3}{2}m^2 \begin{cases} \sin(2-2m)\theta - 2\beta \; - 2e \sin\{(2 - 2m - c)\theta + 2\beta + a\} \\ + \tfrac{5}{2}e^2 \sin\{(2 - 2m - c)\theta - 2\beta + 2a\} \end{cases}$$

5. Calculate the value of c to the third order.

6. In the equation

$$\theta = pt + 2e \sin(cpt - a) + \tfrac{5}{4}e^2 \sin 2(cpt - a)$$

$$+ \tfrac{13}{12}me \sin\{(2 - 2m - c)pt - 2\beta + a) \;\&c.$$

explain tne physical meaning of the last three terms taken together.

7. In Newton's Lunar Theory find an expression for the central disturbing force.

a. Show that the mean central disturbing force is ablatitious.

8. Prove that the Moon's periodic time is increased by the disturbing force.

9. If the orbit in which a body moves revolve round a centre of force with an angular velocity bearing a fixed ratio to that of the body; show that the body may be made to move in the revolving orbit in the same manner as in the orbit at rest, by the action of a force tending to the same centre.

10. A body moves in a parabola about a centre of force in the focus, find the law of force in Newton's manner.

11. Investigate an equation for determining the apsides in a central orbit.

12. Investigate analyticaly the motion of a body which is acted on by several centres of force varying directly as the distance, and show how to construct the position of the centre of the orbit.

ENGLISH LANGUAGE AND LITTERATURE.

ENGLISH LITERATURE.

FIRST YEAR.

TUESDAY, APRIL 5TH:—AFTERNOON, 2 TO 5.

Examiners, ... { CHAS. E. MOYSE, B.A. (Prof.) C.W. Colby, M.A., PH.D. (Sess. Lect.)

(Answers to A and B are to be written on separate bundles of paper.)

A.

1. Assign the following writers to the subdivisions of literature to which they belong: Sir David Lyndsay, Sir Philip Sidney, Joshua Sylvestes Henry Fielding, Swinburne, Tasso, Marini, Matthew Arnold, Robert Browning, Wordsworth, William Drummond of Hawthornden, Byron.

2. (*a*) Give the name of Layamon's work and notice its language. Make a note on the character ȝ. (*b*) What does Robert of Gloucester state concerning language in England? (*c*) Notice and explain an important fear ture of the orthography of the *Ormulum*. (*d*) For what professed object did Sir John Mandeville write his Travels? Notice his style.

3. (*a*) G;ve the account of the Holy Grail as told in the poetical version of Robert de Borron's *Joseph of Arimathea*. In what language is it written? (*b*) What was said concerning Arthur and Spenser, and Arthur and Milton? (*c*) State whence the following extract is taken and unfold its allegory,

> And drops of water fell from either hand;
> And down from one a sword was hung, from one
> A censer, either worn with wind and storm;
> And o'er her breast floated the sacred fish
> ....and over all
> High on the top were those three Queens.

4. (*a*) Show by precise references that Chaucer is indebted to Cicero, Dante, Petrarch and Boccaccio. (*b*) Draw or describe the position of Dante's Inferno and Milton's Hell, but do not enter into any details concerning them. (*c*) Indicate in general terms the characteristics of Dante and Milton as poets. Mention writers who have touched on this subject and say where their remarks are to be found.

5. (*a*) On what ground would you treat the *Handlynge Synne* and the *Confessio Amantis* together? Name the author of each and the language in which each is written. (*e*) State at whose request the latter was written and give some account of one of the sources to which it is indebted.

6. Write on connections (*a*) between Boccaccio, Lydgate, and Elizabethan literature. (*b*) Between Lydgate and Chaucer. (*c*) Between the Mystery Plays and Shakspere.

7. Why would you regard Stephen Hawes as a pre-Spenserian? Give a few facts concerning his life and notice his chief work.

8. (*a*) State in what works the following characters appear and *very* briefly, the part that each plays: Wiglaf, Judith, Byrhtnoth, an image of St. Nicholas, Friar Bungay, Golias Episcopus, Lady Meed. (*b*) When the authors are known, name them.

9. Make a brief and precise notes on each of the following; Cordova Penda, the Emperor Frederick II., Aidan, Haroun al Raschid.

B.

MERCHANT OF VENICE.

(*Answer the first question and two of the others.*)

1. Give a concise but careful account of what occurs at Venice *or* Belmont.

2. Describe your favorite character. Justify your opinion by reference to the text, citing as closely as possible any passages which seem to sustain your views.

3. Write notes on:

The sources of the two main incidents of the play;

The origin and greatuess of Venice;

The special position of Jews during the middle ages, and their character of usurers;

Instances of classical allusion in the play.

4. Explain the meaning of the following words and phrases: ducat, argosies, sit like his grandsire cut in alabaster, favoring publican, Jewish gaberdine, sand-blind, cater-cousins, hovel-post, beshrew your eyes that have o'erlook'd me and divided me, to peize the time, bring them with imagined speed unto the tranect, woolen bagpipe, to hold opinion with Pythagoras, a paltry ring whose posy was .....

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE:—*Spalding.*

TUESDAY, APRIL 5TH:—MORNING, 9 TO 12.

Examiners,..... { CHAS. E. MOYSE, B.A. / REV. PROF. MACADAM, M.A.

(*Answers to A and B are to be written on separate bundles of paper.*)

A.

1. Name the dramatic writers. State the quality of Massinger as a dramatist, and notice some of his plays. What is meant by the Comedy of Manners?

2. What is Spenser's place among English poets? Notice one of his minor poems. Who is the hero of the Faerie Queene? Of what are the ollowing characters types?—the Red Cross Knight, Una, Archimago, Sir Guyon, Britomart, Sir Artegal?

3. Mention the authors of the following works: Five Hundred Points of Good Husbandry; the Purple Island; Essay of Dramatic Poesy; The Gull's Hornbook. Briefly indicate the character of each.

4. Write on the periodical literature connected with the names of Steele and Addison.

B.

1. Mention a work of Sir Thomas Browne and of Cowley, and contrast the styles of the two writers.

2. Name the writer or work to which Spalding refers when he writes: "the best of all mock-heroic poems;" "the first person who deserves to be named as a good newspaper writer;" "the friend and protector of Milton;" "the self-trained tinker of Bedford;" "the defence of the freedom of the press."

3. Write on Francis Bacon.

4. Trace in language your own, professed satire through the Elizabethan and Stuart periods, and as you do so, briefly indicate the characteristics of the works you mention whenever these are touched on by Spalding.

5. Under each of the heads (*a*) Historians and (*b*) Translators, write in chronological order the names of three authors, and one work of each.

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE.

SHAKESPEARE :—*A Midsummer Night's Dream.*

(Time allowed, 2½ hours).

Examiners,..... { CHAS. E. MOYSE, B.A.
P. T. LAFLEUR, M.A.

1. "The play of *A Midsummer Night's Dream* is mainly operatic and lyrical." Comment upon this statement.

2. Divide the personages of this play into groups; and show that much of the interest of the plot arises from the meeting of conflicting characters and mingling of groups.

3. Narrate the events in Act III.

4. Mention three references or allusions to persons then living, in this play.

5. Explain the meaning of;—to be in shady cloister *mew'd*; *collied* night hold or cut bowstrings; the clamorous owl wonders at our quaint spirits; damned spirits that in crossways and floods have burial; dewlapped like Thessalian bulls; he hath rid his prologue like a rough colt.

6. Quote from this play any ten consecutive lines of marked poetical beauty, and give grounds for your selection.

INTERMEDIATE EXAMINATION.

ENGLISH LITERATURE—*The leading Poets of the Nineteenth Century.*

WEDNESDAY APRIL 6TH :—MORNING, 9 to 12.

Examiner..... CHAS. E. MOYSE, B.A.

1. (*a.*) Show that the French Revolution was the logical result of unchecked feudalism, (*b.*) What reference was made to connection between Paine and Burke? (*c.*) Notice Rousseau, and touch on republicanism in Burns.

2. Without entering into minute detail concerning any of his longer works, write on the aspects of Tennyson's poetry, and when occasion offers, introduce comparisons between him and Browning.

3. Write a life of Coleridge, noticing in order his poetical works and their qualities, but avoiding the minuter details of their plot or story.

4. Notice the characteristics of Scott as a poet, and give illustrations.

5. In regard to Wordsworth write on—

(*a.*) His vindication of the choice of lowly characters, and evidence of such in his poetry.

(*b.*) His views of poetic diction.

(*c.*) His sympathy with the French Revolution.

(*d.*) His feelings concerning Faith, and his idea of God?

What short poem of Wordsworth best reveals his characteristics?

6. Make brief notes on Byron in regard to (*a*) aristocratic and (*b*) republican feeling (*c*) Greece.

7. Say whence the following quotations are taken—

(*a.*) I laughed with Chaucer in the hawthorn shade.

(*b.*) You drank of the well, I warrant, betimes?

(*c.*) Rough is the road, your wheel is out of order.

(*d.*) A dozen angry models jetted steam.

(*e.*) When even came with twinkling star,
They sung of Surrey's absent love.

(*f*) clot
Jammed against clot, and spilt its fire over all heaven.

(*g*) he, only a delight
Occasional, an accidental grace,
His hour being not yet come.

(*h*) At midnight the moon cometh,
And looketh down alone.

(*i*) The last of all the Bards was he
Who sung of Border chivalry.

(*j*) Milton! thou shouldst be living at this hour.

(*k*(Carved with figures strange and sweet
All made out of the carver's brain.

Make a few notes on (*e*)

INTERMEDIATE EXAMINATION.

HISTORY AND ESSAY.

TUESDAY, APRIL 5TH :—AFTERNOON, 2 TO 5.30.

Examiners, ... { CHAS. E. MOYSE, B.A.
REV. PROF. MACADAM, M.A.
C. W. COLBY, M.A., PH.D.

(Students of affiliated Colleges will answer A and C on separate bundles of paper. Students of McGill College will answer B and C on separate bundles of paper.)

A

1. Describe as minutely as possible the relations of Danes and English to the time when Cnut became sole king.

2. Write what you know about the reforms and administration of Henry II or Edward I.

3. Give an account of the struggle between Henry IV and the barons under Simon de Montfort.

4. Trace the progress of hostilities between England and France from the accession of Henry VI to 1453.

5. What chief circumstances are connected with the Reformation in England under Henry VIII?

6. What differences had arisen between the first two Stuart sovereigns and their subjects before the meeting of the Long Parliament?

7. Mention the chief English defeats and successes in the Seven Years War.

8. What part did England take in the wars against Napoleon I?

9. Make brief precise notes on the following terms:
Sepoy Mutiny, First Reform Bill, "Iron Duke."
Corn Laws, Chartism, Crimean War, Alabama Claims.

B.

(*Answer the first question and four of the others.*)

1. Write a careful account of the national movement in Italy from the accession of Pius Ninth to the establishment of the present kingdom.

2. What do you know of States rights pretensions in the U.S.A. prior to 1833?

3. By what steps did Prussia, under the administration of Bismarck secure the headship of Germany?

4. (*a*) How has Austria attempted to solve the question of local self-government?

(*b*) Show how the nationalist spirit has been an obstacle to Habsburg policy in the past, and is a menace to it at present.

5. Describe the principal features of the Republican system in France.

6. Make short notes on:

Zollverein, Conference of Olmütz, Squatter sovereignty, Sonderbund, Landesgemeinden, Diploma of 1860, Bulgarian atrocities, Young Italy, *Ottoman* Turk.

C

Write an essay of at least two pages on any one of the following subjects:

1. Your favourite novel.

2. Democracy.

3. The discovery of America.

THIRD YEAR.

CHAUCER AND RHETORIC.

TUESDAY, APRIL 5TH:—AFTERNOON, 2 TO 5.

Examiners, ... { CHAS. E. MOYSE, B.A. / PAUL T. LAFLEUR, M.A.

(Write the answers to A and B on separate bundles of paper).

A. CHAUCER.

1. Refer the following extracts to the pilgrims, and scan (*a*) (*b*) (*j*) (*o*) (*p*).

(*a*) Ay 'Questio quid juris' wolde he crye.

(*b*) He was a wel good wrighte, a carpenter.

(*o*) A fat swan loved he best of any roost.

(*d*) God loved he best with al his hole herte.

(*e*) Therefor he lovede gold in special.

(*f*) In felaweschip wel coude she laughe and carpe.

(*g*) His mouth as greet was as a greet forneys.

(*h*) He rood upon a rouncy, as he couthe.

(*i*) An anlas and a gipser al of silk
Heng at his girdle.

(*j*) And gladly wolde he lerne and gladly teche.

(*k*) Somwhat he lipsed for his wantownesse

(*l*) Ful many a deyntee hors had he in stable.

(*m*) He coude songes make and wel endyte.

(*n*) Of maistres hadde he mo than thryes ten.

(*o*) Swiche glaringe eyen hadde he as an hare.

(*p*) Nowher so bisy a man as he ther nas.

2. Give the modern English (and nothing else) of the following words and expressions: ferne *halwes;* His hors were *goode; wonderly* delivere; bracer; oistre; Austin *bit;* His purchas was well bettre than his rente; a forked berd; he *mighte hente;* a ceint of silk; every*deel;* on a deys; the havenes, as they were; The cause *y-knowe;* Anon he *gaf* the seke man his *bote; streite* y-teyd; *Withouten* other compaignye; y-preved ofte sythes; *meschief;* The *ferreste;* what *shal* yren do; daungerous; *him* gamed; *dyke* and delve; braun; nose-*thirles; Algate* he wayted; a good mister; A long surcote of *pers;* the *hindreste;* The yonge *girles;* by *col-poons oon* and oon; our *lady* veyl; he *wiste.*

3. Write notes on the words of the previous portion which are in italics, being careful to explain inflectional forms, when possible, before you refer to any other matters. (Avoid repetition.)

4. Describe the Wyf of Bathe *or* the Frankeleyn.

B. RHETORIC.

1. Explain and illustrate: Innuendo, Alliteration, Simile, Amplification Rhyme, Blank Verse, Parody.

2. What is meant by the *figurative* as contrasted with the *literal*, in style? Illustrate with references to writers or orators of note.

3. What are the leading qualities of style under the head of *Force?* Give a full explanation, with examples, of any one.

4. Discuss briefly the question as to whether the ludicrous necessarily depends, or not, upon the degradation of the lofty.

5. Contrast the poetic with the philosophic view of historical narrative.

6. Give a short explanation of each of the following kinds of argument; Causative, Illustrative, Analogical.

7. What is the proper place for the persuasive element in a formal oration? Give some reason for this.

8. Contrast, in any one literary aspect, the classical tragedy with Modern tragedy; and give some probable causes for the difference.

B.A. ORDINARY EXAMINATION.

EUROPEAN HISTORY—(LECTURES.)

TUESDAY, APRIL 5TH:—AFTERNOON, 2 TO 5.

Examiners,..... ..... { CHAS. E. MOYSE, B.A.
C. W. COLBY, M.A., PH.D.

(*Answer A and B on separate bundles of paper.*)

A.

1, (*a*) Comment on Leo the Deacon, Livy and the *Battle of Maldon* as historical authorities.

(*b*) Explain what is meant by historical geography and use England in illustration.

(*c*) The expansion of Macedonia determined the western energies of other Greek States; illustrate.

(*d*) How was Roman policy shewn at the games of the Isthmos (B.C. 196) and in the step taken after the battle of Magnesia.

2. (*a*) In the *Pro Lege Manilia*, Cicero boasts that there is not a single piratical craft within the strait of Ocean. Notice the antiquity of piracy by referring to Greek literature, and glance at some of the important events in its history in ancient and modern days.

(*b*) Contrast the Saracen with the Parthian. Why did Syria and Egypt fall rapidly before the Saracen, and Africa prove stubborn? Set forth the significance of the struggle between Moawiyah and Aly, and explain the terms Shiyas and Soonies.

3. In regard to Christianity notice;

(*a*) The attitude shown towards it by Marcus Aurelius and Commodus, and the character of these two men.

(*b*) The model of the ecclesiastical machinery.

(*c*) The conservative character of ecclesiastical territorial divisions as seen in Great Britain and Ireland. Distinguish between an imperial and an ecclesiastical diocese.

4. After touching on the importance of Ravenna in the history of Art write on its imperial history *or* Write on New Rome.

B.

(*Answer the first question and five of the others.*)

1. Give reasons for believing that the period 1150-1275 *circ* was one of the great eras of the world's history. Cite distinct illustrations of vitality in thought and action.

2. Explain the monastic conception of life and duty. How in the early, middle ages did the monks help to advance European civilisation?

3. Write an account of the Cortes as existing in the two principal Spanish kingdoms. Sketch its main functions, with emphasis on points of local difference.

4. Contrast the position of the Holy Roman Emperor before the great interregnum with that which he held after 1272; paying especial attention to that development which led to the Golden Bull of Charles IV.

5. What is the peculiar importance of the quarrel between Philip the Fair and Boniface VIII? Mention without following the course of hostilities, the immediate cause of difficulty and the result to Pope and papacy.

6. Trace the beginnings of Greek study in Italy, concluding your notice with the establishment of the Platonic Academy at Florence.

7. Make brief notes on;

Praedicatores; the Fioretti; Ruy Diaz Campeador; flying buttress; *laesa Majestas*; Cathari, praetaxation; Paracelsus; Abelard's *Sic et Non*; Ambrogio Traversari.

B.A. ORDINARY EXAMINATION.

MODERN HISTORY.

MYERS:—*Mediæval and Modern History.*
BRYCE:—*Holy Roman Empire.*

WEDNESDAY, APRIL 6TH:—MORNING, 9 TO 12.

Examiners, ... { CHAS. E. MOYSE, B.A.
REV. PROF. A. T. LOVE, B.A.

A.

1. (*a*) How were the English converted to Christianity?
(*b*) Explain the nature and the issue of the rivalry between the Celtic and the Latin Church.

2. Give an account of Charlemagne's administration and character.

3. Describe the process by which Feudalism brought about class distinctions in society.

4. Sketch the rise of Italian city republics with especial reference to Venice and Florence.

5. Give some account of the origin of Scholasticism. Name the greatest of the schoolmen appearing in the 13th century.

6. Remark on the beginnings of Spanish language and literature.

7. Make short notes on The Ceremony of Homage, The Hospitalers, the Teutonic Knights, the Seljukian Turks, the Lombard League, the Niebelungen Lied, Treaty of Verdun, Fall of Edessa, Ali, Froissart, Ulfilas, Boccaccio.

B.

1. In what way did Leo the Third signalize his devotion to the Frankish throne? What feelings did the Pope hold towards the Byzantine princes?

2. What was the position of Charles towards the other races of Europe? "He (Charles) repeats the attempt of Theodoric to breathe a Teutonic spirit into Roman forms..... Two causes forbade success." Explain, mentioning the causes which forbade success.

3. Sketch to its conclusion the first part of the struggle about the Investitures.

4. What was the nature of the Imperial authority exercised in Hungary, France, England.

5. Mention the two great changes that had passed upon the ancient constitution before the end of the Hohenstaufen dynasty. Note how far the objects of an elective monarchy were attained in Germany.

6. Give illustrations of the reverence for ancient forms and phrases in the middle ages.

7. Assign events at the following dates 476, 962, 1076, 1356, 1453, 1648.

EXAMINATION FOR THE EARLY ENGLISH TEXT SOCIETY'S PRIZE.

THE LAY OF HAVELOK THE DANE.

WEDNESDAY, FEBRUARY 3RD:—TIME, 2 HOURS.

Examiner, ...CHAS. E. MOYSE, B.A.

1. What conclusion is drawn from the words in the French version, Que un *lai* en firent li Breton? Who ahe bridged tFrench version, and on what ground is the abridgment inferred to be authentic? What bearing on the Lay of Havelock has *Le Bruit Dengleterre* or *Le Petit Bruit* of Rauf de Boun? Mention differences between *The Brute* and the Lai. Write briefly on the traditions of Denmark and Grimsby with reference to the Lay.

2. Translate into modern English:

(*a*) Astirte til him with his rippe. (*b*) He stod and totede in at a bord. (*c*) arwe men. (*d*) Hise bode ne durste he non atsitte, (*e*) that this baret on hwat is wold, (*f*) Nu beyes he his holde blame. (*g*) And brend til asken al bidene. (*h*) He maden here backes al so bloute. (*i*) Hwan have lok saw his folk so brittene. (*j*) Also he was no with chinche. (*k*) the coporaus, (*l*) ther was swilk dreping of the folk. (*m*) Em and brother..... dreng an kayn, (*n*) flaunes, (*o*) gisarm, (*p*) tho mouthe men se everil gleu. (*q*) ic am now no grom, (*r*) ne the hende, ne the drake, (*s*) cristes hore. (*t*) A kevel of clutes, ful, unwraste, (*u*) ful god won. (*v*) He haueth me do mi mete to thigge. (*w*) bac and the. (*x*) And don hem of thar hire were queme, (*y*) that he sholde of his hend plette, (*z*) alto-frusshe.

3. Say who each of the following persons is: Bertram, Gunnild, Helfled, Roberd the rede, William Wendut. Trace Godrich through the Lay.

4. Translate, 857-877, 1211-1246.

5. Notice peculiarities in the orthography of the MS. Mention leading inflections and give an instance of each. In what dialect is the Lay written?

EXAMINATION FOR HONOURS IN ENGLISH AND HISTORY.

THIRD YEAR.

MILTON:—*Shorter English Poems.* WORDSWORTH:—*Prelude.*

WEDNESDAY, MARCH 16TH:—2 TO 5 P.M.

Examiner,..... CHAS. E. MOYSE, B.A.

1. (*a*) Explain the meaning of the titles *L'Allegro* and *Il Penseroso*, and state what is meant by saying that the "bannings" in the poems could be transposed.

(*b*) Give direct allusions to classical and non-classical literature in the two poems, and say in what division each occurs.

2. (*a*) For what purpose was *Arcades* written? (*b*) Explain the title, and shew by quotations from the various parts of *Arcades* that Milton moulds his language accordingly.

3. (*a*) Briefly compare *Lycidas* with *Adonais* and *In Memoriam*. (*b*) Examine the construction of *Lycidas*. (*c*) Explain the following allusions and give the context of each: sage Hippotades; Panope; Deva; the Muse herself that Orpheus bore; smooth sliding Mincius; the guarded

mount. (*d*) Select from different parts of *Lycidas* a few words of classical derivation used in their exact meaning; give the meaning of each and the line in which it occurs. Give the meaning of a few words of Teutonic origin, which cannot be used now as Milton uses them.

4. Set forth the one cardinal idea which may be said to underlie Wordsworth's treatment of Nature, and show how it is illustrated in the Prelude.

5. How does Wordsworth speak of Nature, at the age of five and seventeen years respectively ?

6. Briefly state in your own words in connection with what subject Wordsworth writes as follows :

(*a*) the cross-legged knight.
And the stone-abbot.

(*b*) Bucer, Erasmus or Melancthon.

(*c*) A single Briton clothed in wolf-skin vest.

(*d*) That vision given to spirits of the night
And three chance human wanderers.

(*e*) A Romish chapel, where the vested priest
Said matins at the hour that suited those
Who crossed the sands with ebb of morning tide.

(*f*) The proud fleet that bears the red-cross flag.

(*g*) The Grotto of Antiparos.

(*h*) Newton with his prism and silent face.

(*i*) The name
Of Wallace to be found, like a wild flower
All over his dear Country.

(*j*) In their woodland beds the flowers
Weep, and the river sides are all forlorn.
Oh! give us once again the wishing cap
Of Fortunatus, and the invisible coat
Of Jack the Giant-killer.

(*k*) Having brought
To land a single volume, saved by chance,
A treatise of Geometry.

(*l*) The crook of eloquence that helped
This pretty Shepherd, pride of all the plains,
To rule and guide his captivated flock.

(*m*) While he forewarns, denounces, launches forth,
Against all systems built on abstract rights,
Keen ridicule.

(*n*) A grove..... whose boughs
Stretch from the western marge of Thurston-mere.

(*o*) Romorentin, home of ancient kings.

(*p*) The meek and lofty
Were called upon to exercise their skill
Not in Utopia,—subterranean fields,—
Or some secreted island, Heaven knows where!

7. Develop as logically as you can the growth of the mind of Wordsworth, by following the leading impressions made on him as a man and as a poet by Nature and Mankind.

8. Give a sketch of Milton's life before 1632, and notice his early poems as you proceed, *or* an account of his prose works *or* an outline of his scheme of education as set forth in his letter to Hartlib.

THIRD YEAR ADDITIONAL AND HONOURS.

BURKE, *Reflections;* MACAULAY, *Essays on Clive; Ranke's History of the Popes* and *Warren Hastings.*

WEDNESDAY, MARCH 23RD:—2 TO 5 P.M.

Examiner,..... ..CHAS. E. MOYSE, B.A.

1. What do you learn from Burke concerning the relations between the Revolution Society and the Government of France?

2. Answer the following questions briefly:—

(*a*) Ought the pulpit to meddle with politics?

(*b*) Is the king the servant of the people?

(*c*) What is Dr. Price's advice to those who are dissatisfied with the National Church, and Burke's judgment thereon? And why does Burke refuse to draw a principle from the succession of William III?

(*d*) What are the advantages of hereditary possession?

3. State in as few words as possible the subject in connection with which Burke writes. "But is Cornwall better taken care of than Scotland?" How does Burke refer to the Encyclopædia, the republic of Berne, the court and senate of Areopagus, Checquer No. 71, Fénelon?

4. (*a*) What is the difference between the method adopted by Henry VIII at the dissolution of the monasteries and the method of the French Revolutionists?

(*b*) What does Burke think of the representatives of the clergy?

5. "They have chosen a degraded king." Enter into details.

6. Write on the military aspect of France.

7. Notice the character and career of Dupleix *or* of the Maharaja? Nuncomar.

8. Write briefly and tersely on each of the following subjects:—

(*a*) Benares.

(*b*) The methods of English law transported to India.

(*c*) "The reformed churches were national churches."

9. How does Macaulay write concerning the philosophers in France?

10. What proceedings took place between the beginning of the prosecution of Warren Hastings and his arrest?

THIRD YEAR HONOURS.

ANGLO-SAXON.

SATURDAY MARCH 26TH., AFTERNOON 2 to 5 P.M.

Examiner.....CHAS. E. MOYSE, B. A.

I. Translate:—

A. Beowulf. Hie digel lond

warigeath, wulfhleothu, windige næssas,
frecne fenngelad, thær firgenstream
under næssa genipu nither gewiteth,
flod under foldan. Nis thæt feor heonon
milgemearces, thæt se mere standeth,
ofer thæm hongiath hrinde bearwas,
wudu wyrtum fæst, wæter oferhelmath.
Thær mæg nihta gehwæm nithwundor seon,
fyr on flode. No thæs frod leofath
gumena bearna, thæt thone grund wite.
Theah the hæthstapa hundum geswenced,

heorot hornum trum holtwudu sece,
feorran geflimed, ær he feorh seleth
aldor on ofre, ær he in wille
hafelan (hydan). Nis thæt heoru stow:
thonon ythgeblond up astigeth
wonn to wolcnum, thonne wind styreth
lath gewidru, oth thæt lyft drysmath,
roderas reotath-

B. Battle of Maldon Hyge sceal thy heardra, heorte thy cenre
mod sceal thy mare, thy ure mægen lytlath.
her lith ure ealdor eall forheawen,
god on greote; a mæg gnornian
se the nu fram thys wigplegan wendan thenceth.
Ic eom frod feores: fram ic ne wille,
ac ic be healfe minum hlaforde
be swa leofum menn licgan thence.'
Swa hi Æthelgares bearn ealle bylde
Godric to guthe: oft he gar forlet
wælspere windan on tha wicingas,
swa he on tham folce fyrmest eode,
heow and hynde, oth thæt he on hilde gecranc;
næs thæt na se Godric the tha guthe forbeah.

* * * *

C. Cædmon ll. 111-119 Is thes enga stede ungelic swithe
tham othrum the we ær cuthon,
thean on heofonrice, the me min hearra onlag
theah we hine for tham Alwealdan agan ne moston,
romigan ures rices. Næfth he theah riht gedon
thæt he us hæfth befelled fyre to botme,
helle thære hatan, heofonrice benumen,
hafath hit gemearcod mid monncynne
to gesettanne.

II. 137-140 Licgath me ymbutan
heardes irenes hate geslægene
grindlas greate: mid thy me God heafath
gehæfted be tham healse.

D. Judi h. II.46-53 Dær wæs eallgylden
fleohnett fæger ymbe thæs folctogan
bedd ahongen, thæt se bealofulla
mihte wlitan thurh, wigena baldor,

on æghwilcne the thær inne com
hæletha bearna, and on hine nænig
monna cynnes, nimthe se modiga hwæne
mith rofra him the near hete
rinca to rune gegangan.

II. 122-132 Hæfde tha gefohten foremærne blæd
Indith æt guthe swa hire God uthe,
swegles Ealdor, the hire sigores onleah.
Thaseo snotere mægth snude gebrohte
thæs herewæthan heofod swa blodig
on tham fætelse, the hire foregenga,
blachleor ides, hira begea nest
theawum gethungen thider on lædde,
aud hit tha swa heolfrig hire on hond ageaf,
hygethoncolre ham to berenne,
Iudith gingran sinre.

II. 205 211 Thæ se hlanca gefeah
wulf in walde, and se wanna hræfn,
wælgifre fugel: wiston begen
thæt him tha theodguman thohton tilian
fylle on fægum; ac him fleah on last
earn ætes georn, urigfethera,
salowigpada sang hildeleoth,
hyrnednebba.

A. *milgemearces*: explain the case. Make a note on the reading *hrinde bearwas*.

B. Write on the locality of the fight and the importance of the poem. Make a note on the use of *the* in the first line. *Fram ic ne wille*: what is omitted in the construction?

C. *Ungelic*. Make a note on the quantity.

D. Give the principal parts of the strong verbs in the first extract.

Translate: lange thrage; dreame bedæled; sweord swate fah swin ofer helme ecgum dyhtig andweard scireth—(account for the form andweard); hicgan to handum; beagas with gebeorge; tha heregeatu the eow æt hilde ne deah; hremmas wundon; Forlet tha drenga sum daroth of handa; on tha byrnan sloh; gemunath thara mæla; ofer bæc; fyres fær micel; ufan and neothone; Ne gelyfe ic me nu thæs leohtes furthor; nahte ic thinre næfre miltse thon maran thearfe-(what is thon?), hyra begea; earn ætes georn; aninga; wurpon hyra wæpen of dune; anes monthes fyrst: huru æt tham ende ne weode thæs leanse the heo lange gyrnde.

THIRD YEAR HONOURS.

Anglo-Saxon and Early English :—Sweet, *Anglo-Saxon Reader*, Extt. IV, VIII, XXI. Morris and Skeat : *Specimens of Early English*, Part II. Extt. I, IX.

Saturday, April 9th :—Morning, 9 to 12.

Examiner,.....Chas. E. Moyse, B.A.

1. Translate (*A*) :—

(*a*) Fela spella him sædon tha Beormas ægther ge of hiera agnum lande ge of thæm landum the ymb hie utan wæron; ac he nyste hwæt thæs sothes wæs, for thæm he hit self ne geseah.

(*b*) Se hwæl bith micle læssa thonne othre hwalas : ne bith he lengra thonne syfan elna lang : ac on his agnum lande is se betsta hwælhuntath : tha beoth eahta and feowertiges elna lange, and tha mæstan, fiftiges elna lange ; thara he sæde thæt he syxa sum ofsloge syxtig on twam dagum.

(*c*) He wæs mid thæm fyrstum mannum on thæm lande : næfde he theah ma thonne twentig hrythera, and twentig sceapa, and twentig swyna : and thæt lytle thæt he erede, he erede mid horsan.

(*d*) Thonne thy ylcan dæge the he hine to thæm ade beran wyllath thonne todælath hi his feoh, thæt thær to lafe bith æfter thæm gedrynce and thæm plegan, on fif otthe syx, hwylum on ma, swa swa thæs feos andefn bith. Alecgath hit thonne forhwæga on aure mile thone mæstan dæ fram thæm tune, thonne otherne, thonne thæne thriddan, oth the hyt eall aled bith on thære anre mile ; and sceall beon se læsta dæl nyhst thæm tune the se deada mann on lith. Thonne sceolon beon gesamnode ealle tha menn the swyftoste hors habbath on thæm lande, forhwæga on fif milum oththe on syx milum fram thæm feo. Thonne ærnath hy ealle toweard thæm feo : thonne cymeth se mann se thæt swiftoste hors hafath to thæm ærestan dæle and to thæm mæstan, and swa ælc æfter othrum, oth hit bith eall genumen ; and se nimth thone læstan dæl se nyhst thæm tune thæt feoh geærneth.

B. Foron tha up be Temese oth thæt hie gedydon æt Sæferne ; tha up be Sæferne. Tha gegaderode Æthered ealdormonn, ond Æthelm ealdormann ond Æthelnoth ealdormann, ond tha cinges thegnas the tha æt ham æt thæm geweorcum wæron, of ælcre byrig be eastan Pedredan, ge be westan Sealwuda ge be eastan, ge eac be northhan Temese, ond be westan Sæfern ge eac sum dæl thæs Northweal-cynnes. Tha hie tha ealle gegaderode wæron, tha offoron hie thone here hindan æt Buttingtune, on Sæferne stathe, ond hine thær utan besæton on ælce healfe, on anum fæstenne. Tha hie tha fela wucena sæton on twa healfe thære e, ond se cyng wæs

west on Defnum with thone sciphere, tha wæron hie mid metelieste gewægde, ond hæfdon micelne dæl thara horsa freten, ond tha othre wæron hungre acwolen. The eodon hie ut to thæm monnum the on eastbealfe thære e wicodon, ond him with gefuhton; ond tha Cristnan hæfdon sige. Ond thær wearth Ordheh cyninges thegn ofslægen; ond se dæl the thær aweg com wurdon on fleame generede.

Da thær Byrhtnoth ongann beornas trymian
rad and rædde, rincum tæhte
hu hi sceoldon standan, and thone stede healdan,
and bæd thæt hyra randas rihte heoldon
fæste mid folman, and ne forhtedon na.

——

Ne mihte thær for wætere werod to tham othrum;
thær com flowende flod æfter ebban,
lucon lagustreamas; to lang hit him thuhte,
hwænne hi togædere garas bæron.

——

Him be healfe stod hyse unweaxen,
cniht on gecampe, se full caflice
bræd of tham beorne blodigne gar,
Wulfstanes bearn, Wulfmær se geonga;
forlet forheardne faran eft ongean;
ord inn gewod, thæt se on eorthan læg,
the his theoden ær thearle geræhte.
Eode thu gesyrwed secg to tham eorle,
he wolde thæs beornes beagas gefeccan,
reaf and hringas, and gerenod swurd.

——

Offa gemælde, æscholt asceoc:
'Hwæt thu, Ælfwine, hafast ealle gemanode,
thegenas to thearfe: nu ure theoden lith,
eorl on eorthan, us is eallum thearf
thæt ure æghwylc otherne bylde
wigan to wige, tha hwile the he wæpen mæge
habban and healdan, heardne m ce,
gar and god swurd. Us Godric hæfth,
earh Oddan bearn, ealle beswicene:
wende thæs for moni mahn, tha he on meare rad,
on wlancan tham wicge, thæt wære hit ure hlaford;
for than wearth her on felda folc totwæmed,
scyldburh tobrocen: abreothe his anginn,
thæt he her swa manigne mann aflymde.'

Grammatical questions on proceeding extracts under *A*:—

(*d*) Parse *spella*, *sædon*, *agnum*, *hie*, *sothes*. Explain the quantity of *sædon*.

(*b*) Conjugate the tense to which *bith* belongs; *læssa*—explain the form; *lengra* what umlaut? *ofslogē*, parse, and give principal parts.

(*c*) *Fyrstum, horsan* –explain forms; *lytle*, parse:

(*d*) Parse *thy ylcan, othern, gesannde*. Explain the forms *aled nyhst.*

C. (*a*) Decline *ende, caru, rice.*

(*b*) Decline the strong forms of adjectives *hwæt* and *god.*

(*c*) Decline, *se* and *ic.*

(*b*) Write in full the past tense ind and subj. of *licjan* and *bindan.*

D. Translate:

Ext. I. ll. 409-420.
" II. Psalm XVII (XVIII) ll. 105-116.
" IV. (A) ll. 37-44; (B) ll. 11-20.
" VI. ll. 120-147.
" VIII. ll. 23-52.
" IX. ll. 108-134.

THIRD YEAR HONOURS.

WEDNESDAY. APRIL 13TH, MORNING 9 TO 12.

CHAUCER:—*Parlament of Fowles*; SIDNEY:—*Apologie* for *Poetrie*; MILTON:—*Areopagitica.*

Examiner..... CHAS. E. MOYSE B.A.

1. Notice conjectures as to the event which *The Parlament of Fowles* celebrates.

2. Mention sources to which Chaucer was indebted for matter in his poem, and briefly point out the evidence of each. At the end of the poem birds are chosen to sing a *roundele.* Make a few notes on this and other French forms.

3. Describe the part that Nature plays in the poem.

4. Translate into modern English: in good fey; lernyd other lewid; wel ithewid; withoutyn drede; the nyne speris; I mette; my sweuene; with that on encresede ay my fere; by hemself; men ganne asaye and fonde; to my pay; welk I tho; facound vois; wel bordit; This entymes.

5. Show how Sidney writes concerning the following:—

(*a.*) John Pietro Pugliano.

(*b.*) The body of Plato's work.

(*c.*) The three kinds of Poesie.

(*d.*) Lyric poetry.

(*e.*) Plato's objection to the poets.

6. Mention British and Italian writers whom Sidney names, and say very briefly in what connection their names occur.

7. Compare Milton and Isocrates, and say what was the immediate cause of the writing of *Areopagitica*.

8. Show how Milton writes concerning the following:

(*a*) Licencing at Athens and Lacedaemon.

(*b.*) Licencing seems a vilifying of the whole nation.

9. Treat *one* of the two following divisions of *Areopagitica*:

(*a.*) What is to be thought in general of reading books, whatever sort they be, and whether be more the benefit or harm that thence proceeds.

(*b.*) That this order of licencing conduces nothing to the end for which it was fram'd.

10. Write your opinion of *Areopagitica*, with references to support your statements.

THIRD YEAR HONOURS.

Hallam: Middle Ages, Cap. III; *Macaulay: History of England*, Cap. I. *Green: History of England*. (Reigns of Eliz, and Chas. II.).

MONDAY, APRIL 18th:—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. (*a*) To whom did the southern provinces of Italy owe allegiance at the beginning of the eleventh century? How were they governed?

(*b*) How did this district and Sicily pass into the hands of the Normans? How, subsequently, into the possession of the Emperor Frederic II.?

2. Describe changes made in the constitution of Venice from the earliest times to the final establishment of an oligarchy in the fourteenth century.

3. How does Macaulay justify his proposition that the Church of England "occupies a middle position between the churches of Rome and Geneva."

4. The great rival parties of the Civil War first appeared in distinct form at the meeting of Parliament in October, 1641. Show in what the strength of each consisted, and explain the views of the best men on either side.

5. Illustrate England's prosperity under Elizabeth by special reference to manufactures, commerce, ease in living and domestic architecture.

6. Show how patriotism in the time of Elizabeth was synonymous with defence of the Protestant cause.

7. Make notes on:—

(*a*) The War of Chioggia;

(*b*) Cromwell's foreign policy;

(*c*) Allen, the English Jesuit.

8. Sketch the aims of France and the political relations between England and France during the reign of Charles II.

9. Write on:—

(*a*) Science in the reign of Charles II.

(*b*) The composition of the Parliament of 1661.

(*c*) Bunyan.

THIRD YEAR HONOURS.

LESLIE STEPHEN:—*English Thought in the Eighteenth Century*:—ADDISON *Essays in the Spectator*.

THURSDAY, APRIL 21ST:—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A

. Write on Montesquieu.

2. Set forth the views expressed in Brown's *Estimate of the Manners and Principles of the Times*.

3. Examine Samuel Johnson's politics.

4. Write on Burke *or* Godwin. Give a list of the other writers mentioned in the sections entitled *The Constitutionalists* and *The Revolutionists*, and state *very briefly* the cardinal position of each.

5. Mention the qualifications in an Action, and consider the *Iliad*, *Æneid* and *Paradise Lost* accordingly.

6. Consider the Sentiments and the Language of *Paradise Lost*.

7. The three great heroic poems "are built on very slight foundations." Explain.

8. Write on the Tenth book of *Paradise Lost* in regard to the celestial, the infernal, the human and the imaginary persons who appear there.

9. Touch briefly on the following subjects :—

(*a*) The sense of sight.

(*b*) The qualities in objects from which the pleasures of imagination proceed.

(*c*) The gardens of France and Italy.

(*d*) The concave and the convex in architecture.

(*e*) Statuary, Painting and Description.

(*f*) Shakspere.

(*g*) The defectiveness of the Imagination.

0. Take some major theme in the papers on the Imagination, and work it ou

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THIRD YEAR HONOURS.

SPENSER :—*Faerie Queene*, Bk. I.; MILTON :—*Comus*; DRYDEN :—*Annus Mirabilis*; *Absalom and Achitophel*, Part I.; Preface to "*Fables.*"

SATURDAY, APRIL 23RD :—MORNING, 9.

Examiner,..... CHAS. E. MOYSE, B.A.

1. How does Spenser speak of the following subjects in his Prefatory Letter?

(*a*) Xenophon and Plato.

(*b*) The second and third days of the Feast.

2. Give an account of Orgoglio's castle and of the cave of Despair.

3. Write a list of the important persons in the First Book. Say what each means in the allegory, and mention *very briefly* one important action in which each takes part.

4. Give the modern English (and nothing else) of the following words and phrases: his hart did earne, boughtes, entraile, parbreake, that can

delude the sleepers sent, owches, embard, essoyne, discolourd say, to hurtlen, faytor, and souce so sore, lay-stall, leasing, sandie graile, stound, brawnd bowrs, ypight, uneath, amate, her wrack for to bewaile.

5. Refer each of the following lines to its place in *Comus*.

(*a*) Heav'n itself would stoop to her

(*b*) I hate when Vice can bolt her arguments

(*c*) I purs't it up

(*d*) A thousand liveried angels lackey her

(*e*) Hail Goddess of nocturnal sport

(*f*) Listen for dear honour's sake

(*g*) What need a man forestall his date of grief

(*h*) I took it for a faery vision

(*i*) I shoot from Heav'n to give him safe convoy

(*j*) Yet nought but single darkness do I find

6. Show that *Comus* fulfils the requirements of a Masque

7. Give the substance of the following speeches:—

(*a*) *Comus*. The star that bids the shepherd fold

(*b*) *El. Br.* 'Tis chastity, my brother, chastity

State briefly what function the Elder Brother performs in the masque.

8. Write on science in the reign of Charles II. with reference to the Royal Society.

9. Use *Annus Mirabilis* in a description of the Fire and its extinction.

10. Give some account of the Popish Plot.

11. Describe Shimei; give an outline of the argument between Absalom and Achitophel at the beginning of the poem, quoting when you can.

12. What does Dryden say concerning (*a*) Chaucer, (*b*) Chaucer's *Palamon and Arcite*?

ADDITIONAL AND B.A HONOUR EXAMINATION IN ENGLISH.

TENNYSON :—*In Memoriam.*

TUESDAY, MARCH 8TH.....2 to 5 p. m.

Examiner.....CHAS. E. MOYSE, B.A

1. Mention the three cycles and the other chronological landmarks of *In Memoriam*. Mention two (and only two) non-chronological landmarks. State in general terms why such non-chronological landmarks are used, and refer to the subject matter of those you have chosen in proof of your statement.

2. Write: (*a*) on *Lycidas, Adonais* and *In Memoriam* in regard to mutual interpretation; (*b*) on *Lycidas* and *In Memoriam* in regard to pastoral form and observance of the canon of a monody.

3. State the fundamental idea of *In Memoriam*, and show that the Prologue mirrors the greater outlines of the poem.

4. State the point in the development of *In Memoriam*, on which each of the following extracts bears, and then place the extracts in their proper order.

(*a*) "——comfort clasped in truth reveal'd."

(*b*) "And I shall know him when we meet."

(*c*) "That not one life shall be destroyed."

(*d*) "Dark house, by which once more I stand,"

(*e*) "And if along with these should come
The man I held as half-divine."

(*f*) "Ring out, wild bells, to the wild sky."

(*g*) "The baby new to earth and sky."

5. Give the substance of section CIII.,
"Methought I dwelt within a hall.,
And maidens with me ——"

Explain the allegory.

6 Examine Tennyson's treatment of the theme brought forward between section XXXI ("When Lazarus left his charnel-cave") and the appearance of Christ.

7. What do you learn of Hallam's life (not his character) from *In Memoriam?*

8. Show how Tennyson treats the following subjects :

(*a*) The resurrection of the soul ; whether immediate or not.

(*b*) The last walk in the garden at Somersby.

9. Show how Tennyson refers to the following subjects throughout *In Memoriam* :

(*a*) The office of poesy. (Note what may be called poetical definitions of *In Memoriam* itself.)

(*b*) The lover-or marriage-relation.

10. How does Tennyson use the following in figure : (*a*) the Wye, (*b*) the sun, (*c*) the servants in a house, (*d*) the shadow of a lark ?

11. Quote three disconnected stanzas, which seem to you to show Tennyson's power in dealing with (*a*) the phenomena of Nature (*b*) pure science.

B.A. HONOURS

THURSDAY, MARCH 10TH :—2 TO 5 P.M.

FREEMAN :—*The Growth of the English Constitution ;* MACAULAY :—*History of England,* vol. 1, chap. 3.

Examiners, ... { CHAS. E. MOYSE, B.A.
CHAS. W. COLBY, M.A., PH.D.

[Write the answers to A and B on separate bundles of paper.]

(A)

1. Answer the following questions briefly :—

(*a*) What English assemblies would answer to the Landesgemeinden of Uri and Appenzell ?

(*b*) Is it correct to appy the term "The Three Estates of the Realm" to the English Constituton ?

(*c*) Did Elizabeth and James I. reign lawfully ?

2. Give the substance of the account of the ancient Teutonic polity as told by Tacitus.

3. In proof of what is Sir Robert Peel's motion against the miuistry of Lord Melbourne cited ? Give other evidence bearing on the general question involved.

4. "Three of the most famous Assemblies in English history have ever been puzzles in the eyes of mere legal interpreters; to the man of the eleventh century they would have seemed perfectly legal and regular." Reproduce Freeman's treatment of the subject.

(B.)

1. "Bacon in his last testament had solemnly bequeathed his fame to the next age." Show how England advanced in scientific knowledge "by the reception of the Verulamian doctrine."

2. What was the state of army and navy under Charles II?

3. What means of locomotion existed during the Stuart period? What were the dangers and difficulties of travel?

4. What part did the coffee house play in the life of the metropolis?

ADDITIONAL AND B.A. HONOURS.

SWEET:—Anglo-Saxon Reader: Extt. II, XIII, XX.

MORRIS and SKEAT:—Specimens of Early English: Part II, Extt. X-XX.

THURSDAY, MARCH 17TH:—2 TO 5 P.M.

Examiner,.....CHAS. E. MOYSE, B.A.

(A.) 1. Translate:—

Ext. II. ll. 60-71.

Give the umlants causing béc; wendan; laéran; hierran.

Parse thyncth; to wiotonne. Give the principal parts of gecnawan; befeolan.

Ext. XIII. ll. 82-94.

Give the principal parts of all the purely strong verbs and the nom. sing and the gender of scippend, hlaforde, sothfæstnisse, suna, rice, thinc, fet, wite.

Ext. XX. ll. 107-132.

2. Translate:—Thær him aglæca ægræpe wearth; sweord swate fah, swiu ofer helme ecgum dyhtig andweard scireth; (he) frægn gif him wære æfter neodlathe niht getæse; sec, gif thu dyrre; thys dogor thu gethyld hafa weana gehwylces, swa ic the wene to; folc to sægon; he on holme wæs sundes the sænra the hyne swylt fornam; (ic) breac thonne moste; ne him for hrofsele hrinan ne mehte færgripe flodes; yrringa sloh; Ferdon forth thonon fethelastum ferhthum fægne.

(B) 1. Translate:—

Ext. X. ll. 475-505.
Ext. XII. ll. 149-160.
Ext. XIII. ll. 363-376.
Ext. XV. Passus V. ll. 119-141.

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3. Translate :—The stok, nest the rot growand; a man that has that held Hele has; my fon days sere; and the mare that twa to-gyder lufes; war thai mett With men that sone thaire laykes lett; stedes strong bileuid still; feld foute of the child; perrey and pellure; feffed to here paie; as tyt; The mukel lauande loghe to the lyfte rered; Vuche burde with her barne: the hathel under hach; appel garnade; grete notes of Ynde; And rauhte with his Ragemon Ringes and Broches; And gurdeth of gyles hed; Lurkede thorw lones to-logged of Monye; And stud intill a busk lurkand; Syne in a mwre thai enterit ar; Thar wes he vounder will of vayn; cummynge doun as a culuere; he manasside hem: Lo! hier to cofres on the bord; Hir medicine is forto triste; So lich, that no lif thilke throwe That on mai fro that other knowe.

4. Select, and place in tabular form, dialectal words occurring in the previous question.

B.A. HONOURS.

GUIZOT :—*History of Civilization in Europe.*

MONDAY, MARCH 21ST :—2 TO 5 P.M.

Examiners,..... { CHAS. E. MOYSE, B.A. (Prof.). CHAS. W. COLBY, M.A., PH.D. (Sess. Lect.).

1. (*a*) In defining civilization Guizot puts several hypothetical cases to show that it is something superior to the simple perfection of the social relations. What are these cases?

(*b*) How does Guizot maintain that it is possible for one country to be superior to another in civilization even when in the latter prosperity is greater and better distributed among individuals?

2. What causes led to the attempts which were made between the fifth and ninth Century to extricate European society from barbarism? Indicate the nature of the attempts in question.

3. What obstacles stood in the way of a theocratical organization of society in mediæval Europe?

4. Indicate the nature of feudal royalty in France. Show how a new conception began to prevail in the era of Louis le Gros.

5. Illustrate the general tendency of the fifteenth century towards political concentration by reference to Spain, Germany, England and Italy. Write what you know about the beginnings of modern diplomacy.

6. Guizot says that three principal parties sprang up in the great crisis of the English Civil war, 1640 *et seq*. Give an account of these.

7. Shows as concisely as possible in what connection mention is made of Abelard; The canon of the Council of Toledo: The Jesuits.

B.A. HONOURS.

ANGLO SAXON. Beowulf.

SATURDAY MARCH 26TH., AFTERNOON 2 TO 5 P.M.

Examiner ..... CHAS. E. MOYSE, B.A.

I. Translate:—

A. ll. 80-90. He beot ne aleh, beagas dælle,
sinc æt symle. Sele hlifade
heah and horn-geap: heatho-wyrma bad,
lathan liges; ne wæs hit lenge tha gen,
thæt se ecg-hete athum-swerian
æfter wæl-nithe wæcnan scolde.
Tha se ellen-gæst, earfothlice
thrage getholode, se the in thystrum bad,
thæt he dogora gehwam dream gehyrde
hludne in healle; thær wæs hearpan sweg,
swutol sang scopes.

B ll. 320-331. Stræt wæs stan-fah, stig wisode
gumum ætgædere. Guth-byrne scan
heard hond-locen, hring-iren sci·
song in searwum, tha hie to sele furthum
in hyra gryre-geatwum gangan cwomon.
Setten sæ-methe side scyldas,
rondas regn-hearde with thæs recedes weal,
bugon tha to bence; byrnan hringdon,
guth-searo gumena; garas stodon,
sæ-manna searo, samod ætgædere,
æsc-holt ufan græg; wæs se irena-threat
wæpnum gewurthad.

C. ll. 685-688. Gespræc tha se goda gylp-vorda sum
Beowulf Geata, ær he on bed stige:
"No ic me an here-wæsmum hnagran talige
"guth-geweorca, thonne Grendel hine;
"forthan ichine sweorde swebban nelle,
"aldre beneotan, theah ic eal mæge.
"Nat he thara goda, thæt he me on-gean slea,
"rand geheawe, theah the he ref sie
"nith-geweorca; ac wit on niht sculon

C. ll. 685-688. secge ofersittan, gif he gesecean dear
" wig ofer wæpen, and siththan witig god
" on swa hwæthere hond halig dryhten
" mærtho deme, swa him gemet thince."

D. ll.81-981. 9Tha wæs swigra secg, sunu Ecglafes,
on gylp-spræce guth-geweorca,
siththan æthelingas eorles crafte
ofer healne hrof hand sceawedon,
feondes fingras, foran æghwylc ;
wæs stede nægla gehwylc, style gelicost,
hæthenes hand-speru hilde-rinces
egle unheoru ; æg-hwylc gecwæth,
thæt him heardra nan hrinan wolde
iren ær-god, thæt thæs ahlæcan
blodge beadu-folme onberan wo'de.

Notice Sievers' treatment of ll. 985-986. Give his reading for *thæt* in l. 990 and *onberan* in l. 991 and translate.

E. ll. 1652-1677. Beowulf mathelode, bearn Ecgtheowes :
" Hwæt ! we the thas sæ-lac, sunu Healfdenes,
" leod Scyldinga, lustum brohton,
" tires to tacne,the thu her to locast.
" Ic thæt unsofte ealdre gedigde :
" wige under wætere weorc genethde
" earfothlice, æt-rihte wæs
" guth getwæfed, nymthe mec god scylde.
" Ne meahte ic æt hilde mid Hruntinge
" wiht gewyrcan, theah thæt wæpen duge,
" ac me geuthe ylda waldend,
" thæt ic on wage geseah wlitig hangian
" eald sweord eacen (oftost wisode
" winigea leasum) thæt ic thy wæpne gebræd.
" Ofsloh tha æt thære sæcce (tha me sæl agealdl)
" huses hyrdas. Tha thæt hilde-bil
" forbarn, brogden mæl, swa thæt blod gesprang,
" hatost heatho-swata : ic thæt hilt thanan
" feondum ætferede ; fyren-dæda wræc,
" death-cwealm Denigea, swa hit gedefe wæs.
" Ic hit the thonne gehate, thæt thu on Heorote most
" sorh-leas swefan mid thinra secga gedryht,

B. ll. 1852-1877. and thegna gehwy'c thinra leoda,
" duguthe and iogothe, thæt thu him ondrædan ne thearft,
" theoden Scyldinga, on tha healfe,
" aldor bealu eorlum, swa thu ær dydest."

II. TRANSLATE :—(1) Eoforlic scionon
ofer hleorberan, gehroden golde
fah and fyrheard, ferh wearde heold.

Notice various readings in the above passage and give the translation of each.

(2) Ymb thæs helmes hrof heafodbeorge
Wirum bewunden walan utan heold.

What is Kluge's rendering of *walan*?

(3) Het tha Hildeburh æt Hnæfes ade
hire selfre sunu sweolothe befæstan,
banfatu bærnan and on bæl don.
Earme on eaxle ides gnornode
geomrode giddum.

How does Cosijn amend the passage?
(4) searo-nithas fealh

What is Cosijn's view concerning *fealh*? In line 1215 just before Wealhtheo speaks we read *Heal swæge onfeng*. Cosijn objects on the ground of impropriety. What would he read?

III. 1. Translate: egsode eorl; Tha wæs sund liden, eoletes æt ende; ægwearde heold; smithes orthancum; scencte scir wered; Ne bith the wilna gad; his mod ahlog; icge gold; æfter neodlathum.

2. Name the dynasties mentioned in Beowulf and make a note on Sigemund.

IV. Translation at sight.

On thæm ærestan gefeohte the Alex [an]der gefeaht with Darius an Persum, Darius hæfde siex hund M folces. He wearth theh swithor beswicen for Alexandres searewe thonne for his gefeohte. Thær wæs ungemetlic wæl geslagen Persa; ond Alexandres næs na ma thonne hundtwelftig on thæm rædehere, ond nigan on thæm fethan. Tha afor Alexander thonan on Frigam, Asiam lond, ond heora burg abræc ond towearp the mon hætt Sardis. Tha sægde him mon thæt Darius [hæfde] eft fird gegadered on Persum. Alexander him thæt tha ondred for thære nearwan stowe the he tha on wæs, ond

hrædlice for thæm ege thonan afor ofer Taurasan thone beorg, ond ungeliefedliene micel[ne] weg on thæm dæge gefor, oth he com to Tharsum thære byrg on Cilicium thæm londe. On thæm dæge he gemette ane ea, sio hæfde ungemettlice ceald wæter, seo wæs Cithnus haten. Tha ongan he hine bathian thæron swa swatigne; tha for thæm ciele him gescruncan ealle tha ædra, thæt him mon thæs lifes ne wende.

Æfter thæm the he hie oferwunnen hæfde, he for on Bretanie thæt iglond, ond with tha Brettas gefeaht, ond gefliemed wearth on thæm londe the mon hæt Centlond. Rathe thæs he gefeaht [eft] with tha Brettas on Centlonde, ond hie wurdon gefliemede[4]. Heora thridde gefeoht wæs neah thære ie the mon hæt Temes, neh thæm forda the mon hæt Welengaford. Æfter thæm gefeohte him eode on hand se cyning ond tha burgware the wæron on Cirenceastre, ond siththan ealle the on thæm iglonde wæron.

B. A. HONOURS.

CAMPBELL :—*The Pleasures of Hope:* MATTHEW ARNOLD :—*Essays in Criticism (Second Series).*

THURSDAY, APRIL 7TH :—MORNING, 9-12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Mention interesting biographical facts relative to *The Pleasures of Hope.*

2. Sketch the main outlines of thought in the First part of *The Pleasures of Hope.*

3. (*a*) "When first the Rhodian's mimic art array'd

The Queen of Beauty in her Cyprian shade."

Give the substance of the lines which complete the theme. Make notes on Rhodian art and explain Campbell's allusion.

(*b*) "Thy woes, Arion! and thy simple tale"

Give a few particulars concerning the work mentioned.

4. Show how Campbell treats the theme of the "pleasing page" at evening's hour.

5. Quote from the poem two passages, one in each Part, and neither more than ten lines in length, which you think especially good, and state why you think them so.

6. Quote from each Part of the poem and from different topics five single lines which show Campbell's variety of allusion. Add an explanay tory note to each. (Do not use previous matter.)

7. (*a*) Name the two estimates which obscure the real value of poetry. Define them very briefly. How does M. Vitet speak of the *Chanson de Roland* and how does Matthew Arnold treat his criticism?

(*b*) Write pointedly on "a real estimate of the poetry of Burns"

8. (*a*) Touch on Milton's modesty and his reading.

(*b*) "Keats has made himself remembered..... as no merely sensuoup poet could be." In virtue of what? In what are Keats and Shakspere on an equality? In what unequal?

9. Taking Wordsworth's poetry in the mass, where would Matthew Arnold place him among English poets? Set forth in your own language, and in moderate compass, Matthew Arnold's views concerning Wordsworth's merits and defects.

10. Whose estimate of Byron does Matthew Arnold think correct? Give it. Make a few statements regarding Leopardi.

11. Give a life of Shelley up to the date of his second marriage or give the plot of Anna Karénine and Matthew Arnold's criticism.

12. State in very few words what is worth attending to in Amiel. Give instances.

13. Give estimates of Gray and Gray's estimate of Aristotle and Froissart.

THIRD YEAR AND B. A. HONOURS.

LECTURES ON TYPES OF MEDIÆVAL, HUMANISTIC AND MODERN THOUGHT.

FRIDAY, APRIL 8TH:—MORNING, 9 TO 12.30.

Examiners,..... .... { CHAS. E. MOYSE, B.A. / CHAS. W. COLBY, M.A., PH.D.

(*Answer the first question and six of the others.*)

1. Show how Lutheranism and Calvinism represent distinct lines in the Reformation.

In what ways were the radical sects opposed to both?

2. State briefly:

a. The mediaeval conception of a world church and a world state:

b. The circumstances of any noted instance in which this theory failed:

c. The reasons why special importance should be attached to the Italian expedition of Henry VII.

3. Describe the administration of Cluny. Give a few details concerning the life of the brethren.

4. Why is Joinville's life of St. Louis an important work in itself and in its subject?

5. *a*. Enumerate the seven Sacraments with comment upon:

1. Any three that seem to you to possess particular interest;
2. Aquinas' analogy between them and various phases of life.

b. What chief advantages to mediaeval society may be ascribed to the sacred character of the priestly office?

6. Illustrate return to classical motives in the Italian Renaissance by reference to sculpture, architecture and painting.

7. What did Bacon seek to accomplish by his reforms?
Describe the method which he proposed to follow.

8. What was the nature of Rousseau's attack on eighteenth century society? What was there in the existing state of French affairs to justify his resentment, and to give his appeals popularity?

9. Write short notes on:

Synod of Sutrium: *Treuga Dei:* All Souls' day: Leo Battista Alberti: Benvenuto Cellini: *Epistolae Obscurorum Virorum:* Marburg Conference of 1529: *Institutio Christiani Religionis:* Zwickan prophets: *Cogito, ergo sum:* the case of Calas.

B.A. HONOURS.

SHAKSPEARE:—*Love's Labours Lost; A Midsummer Night's Dream; Hamlet.*

TUESDAY, APRIL 12TH: MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. In what ways does *Love's Labour Lost* declare itself to be one of Shakspeare's early plays?

2. Express the cardinal idea of *Love's Labour Lost*, and write on its Euphuism.

3. Notice parallelism in the structure of *A Midsummer Night's Dream*.

4. Notice contemporaneousness in *A Midsummer Night's Dream.*

5. *A Midsummer Night's Dream* is sometimes regarded as destitute of any serious meaning, and its Fairies as regardless of human affairs. Write on these subjects.

6. Use the play *Hamlet* to explain its meaning.

7. Why would you connect *Hamlet* with *Romeo and Juliet?*

8. Where do the following extracts from *Love's Labour Lost* occur?

(*a*) O! sweet gardon! better than remuneration.
(*b*) This fellow pecks up wit as pigeons peas,
And utters it again when God doth please.
(*c*) While greasy Joan doth keel the pot,
(*d*) By the north pole, I do challenge thee.
(*e*) Old Mantuan! Old Mantuan! who understandeth thee not, loves thee not.
(*f*) One, whom the music of his own vain tongue,
Doth ravish like enchanting harmony.
(*g*) Thou canst not hit it, hit it, hit it,
Thou canst not hit it, my good man.
(*h*) he clepeth a calf caulf,
(*i*) I Pompey am.

9. Give an outline of the portion of *A Midsummer Night's Dream* which concerns the mechanicals prior to the exhibition of their play before the Duke.

10. Give an outline of the scenes in which Ophelia takes part.

ADDITIONAL AND B. A. HONOURS.

SHELLEY :—*Adonais.* TENNYSON :—*Idylls of the King; (Coming of Arthur, Gareth and Lynette, Holy Grail, Passing of Arthur.)*

THURSDAY, APRIL 14TH :—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. Write on the title *Adonais.* What evidence is there that Shelley intended to publish a longer poem? Make a note on "the third among the sons of light."

2. Illustrate from *Adonais* by *brief* quotations, and confining yourself to one in each case,

(*a*) Shelley's mysticism, (*b*) his passion (*c*) the pastoral element.

3. Give an outline of *Adonais* as briefly as you can, consistently with the mention of all its leading points, and when you meet similarities between it and *In Memoriam*, quote *very briefly* from both poems.

4. (*a*) Over what time does the action of the Idylls extend? Give two brief quotations in proof. Treat Arthur, the king, allegorically.

(*b*) "For I was near him when the savage yells
Of Uther's peerage died and Arthur sat
Crown'd on the dais."

Describe the scene, and reveal the allegory of its details. Supplement that allegory from *Gareth and Lynette*.

5. From *Gareth and Lynette* show the allegorical meaning of

(*a*) Camelot.

(*b*) The brethren-knights.

What is the order of Tennyson's knights in the History? Mention three important particulars in which the History differs from Tennyson.

6. (*a*) On examination of the source of the Grail Story, what two distinct portions reveal themselves? Answer a similar question concerning the Quest

(*b*) Take the works *A*—*G* treated in the lectures and use them in reference to any *one* important feature of the Grail Story.

7. Explain the allegory of (*a*) the four great zones of sculpture (*b*) the windows of Arthur's hall (*c*) the experience of Sir Percivale prior to the appearance of Sir Galahad. Explain why Arthur dissuades his knights from following the Quest.

8. Describe what occurs at Carbonek.

9. Give in your own words a brief outline of the *Passing of Arthur*.

10. Write on the poetry of the *Passing of Arthur*, illustrating your statements by very brief quotations.

11. Say where the following lines occur:

And thou shalt be as Arthur in our land
Myriads of topaz-lights and jacinth work
Of sublest jewellery.
—that fierce light which beats upon a throne
God make thee good as tho u art beautiful
From the great deep to the great deep he goes
Old with the weight and breath of twenty boys
Follow the deer? follow the Christ, the King.

B.A. HONOURS.

GIBBON :—*Decline and Fall of the Roman Empire*, chaps. L., LI.

SATURDAY, APRIL 16TH :—AFTERNOON, 2 TO 5.

Examiner,.....CHAS. E. MOYSE, B.A.

1. (*a*) What were the chief vices of the Arabs? (*b*) What were their social qualifications and virtues?

2. What is the Mohammedan conception (*a*) of Hell? (*b*) of Paradise?

3. What wars did the Mohammedans wage during the Prophet's lifetime?

4. (*a*) Give some account of the character of Ali; (*b*) his strife with the Ommiad dynasty; and (*c*) the fortunes of his family in subsequent generations.

5. Make brief notes on the following words:
Caaba, Mahadi, Sabianism, Mohagerians and Ansars, Saracen, Koreish.

6. Give an account of the siege of Damascus.

7. Write on the conquest of Egypt.

8. Sketch the career of Musa from his invasion of Spain to his death.

9. Make notes on the following subjects: the Ghebers, the Saracens and Carthage, the fair of Abyla, the mode of life of the early Caliphs, the palace of Chosroes, Moseilama.

B.A. HONOURS.

MORE :—*Utopia*. VILLIERS :—*The Rehearsal*.

WEDNESDAY, APRIL 20TH :—MORNING, 9 TO 12.

Examiner,.....CHAS. E. MOYSE, B.A.

1. Write on Plato's *Republic* and More's *Utopia*.

2. In the first part of *Utopia* the subjects of capital punishment and community of goods are discussed. Sketch the arguments.

3. Describe Amaurot.

4. Give the substance of what is said concerning the following matters in Utopia (*a*) foreign trade, (*b*) foolish sports, (*c*) leagues.

5, Make very brief notes on (*a*) our Ladies Church at Antwerp. (*b*) Black heath fielde, (*c*) the Polylerites, (*d*) the Achoriens, (*e*) the Macariens (*f*) the Anemolians, (*g*) the Nephelogetes.

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6. What was the object of *The Rehearsal*? Write on its method and illustrate your leading statements.

7. (*a*) Give the Rules of *Mr. Bayes*. (*b*) Sketch, without quotation, the parts that Prince Prettyman, Drawcansir and Volscius play.

8. What do you find in *The Rehearsal* concerning (*a*) the fashions of the age, (*b*) pre-Restoration literature?

B.A. HONOURS.

BUCKLE:—*History of Civilization in England.* POPE:—*Essay on Criticism; Essay on Man.*

SATURDAY, APRIL 23RD:—MORNING, 9 TO 12.

Examiner,..... CHAS. E. MOYSE, B.A.

1. State, without going into any minute detail, the doctrines and fallacies which Buckle deals with in the first chapter.

2. Write on Egypt.

3. Show how Buckle touches on the following minor subjects:—

A. Hindu records in regard to (*a*) duration of life, (*b*) professed antiquity of literature.

B. The quality of Spanish and Italian literature.

C. Human attributes of the Gods of Greece.

4. *Essay on Criticism.* Give the context of each of the following lines, or its substance, and say in connection with what general subjects each line is written.

(*a*) As next in place to Mantua, next in fame
(*b*) He steer'd securely and discover'd far
(*c*) We think our fathers fools, so wise we grow
(*d*) Read them by day and meditate by night
(*e*) And drinking largely sobers us again
(*f*) And ten low words oft creep in one dull line
(*g*) And lash'd so long, like tops, are lash'd asleep
(*h*) The scholar's learning with the courtier's ease

5. Write on the *Essay on Criticism* with reference to its reflection of the spirit of its age, and use contemporary literature when you see fit to do so.

6. State the chief views of the deistic school expressed by Bolingbroke, and show Pope's indebtedness to him in the *Essay on Man*.

7. Sketch in a page the outline of EPISTLE II, *Of the Nature and State of Man with respect to Himself as an Individual.*

8. Give the context of each of the following lines in *Epistle IV*, or its substance:

(*a*) Oh Happiness! our being's end and aim
(*b*) Honour and shame from no condition rise
(*c*) .....damn'd to everlasting fame
(*d*) One thinks on Calvin Heav'n's own spirit fell
(*e*) Reason's whole pleasure, all the joys of Sense
Lie in three words
(*f*) Expect thy dog, thy bottle, and thy wife
(*g*) An honest man's the noblest work of God
(*h*) Is yellow dirt the passion of thy life?

LOGIC, MENTAL AND MORAL PHILOSOPHY.

LOGIC.

WEDNESDAY, 13TH APRIL:—MORNING, 9 to 12.

Examiners,..... PROF. J. CLARK MURRAY, LL.D.; P. T. LAFLEUR, M.A.; REV. PROF. MACADAM.

(N.B.—Answers to A and B are to be written on separate sets of papers.)

(A)

1. (*a*) Explain the causes and logical effects of ambiguity of terms. (*b*) Explain how "The Extension of terms is decreased as their Intension is increased."

2. (*a*) State what is meant by 'Distribution,' and what terms are distributed in each of the propositions A, E, I, O.

(*b*) What other propositions of the Square of Opposition are true false, or doubtful, (1) if A, E, I, O are respectively true, (2) if they are false.

3. (*a* Distinguish Immediate from Mediate Inference, and state the object of conversion.

(*b*) If the proposition "All good men are sincere" is true, show, by *any* logical processes, what other propositions may be legitimately obtained from it, (1) as true, (2) as false.

4. Explain the Predicables and the principles of Logical Division.

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(B)

5. What determines the Figure of a syllogism? How many figures are there, and what is the special mark of each? Prove that (*a*) the mood A A A is impossible in the third figure; (*b*) the second figure renders negative conclusions alone; (*c*) the premises I E are inadmissible in any figure.

6. What are the objects of logical Reduction? Give examples of syllogisms in the following moods, and reduce them;—Camestres Darapti, Datisi.

7. Explain briefly and illustrate: — Modus Tollens, Dilemma, Enthymeme, Sorites.

8. Give a short explanation, with example, of the following fallacies; —Quaternio terminorum. Non causa pro causâ, A dicto secundum quid ad dictum simpliciter.

9. Test the following cases of reasoning;—

(*a*) His imbecillity might have been inferred from his fondness for favourites; for all weak princes have favourites.

(*b*) No, the Dean (Swift) was no Irishman; no Irishman ever gave but with a kind word and a kind heart.

(*c*) Power pleases the violent and proud; wealth delights the placid and timorous; youth therefore flies at power, and age grovels after riches.

(*d*) Men believe either what is actual fact or what is probable; this is believed: this, therefore, is either a fact or something probable. Now, it is not probable, therefore it is a fact.

(*e*) The first thing I would do, were I made governor, would be to remove all control over any actions; for he that is absolute, can do what he likes; he that can do what he likes, can take his pleasure; he that can take his pleasure, can be content; and he that can be content has no more to desire.

THIRD YEAR

MURRAY'S HANDBOOK OF PSYCHOLOGY, BOOK II, PART I.

MONDAY, APRIL 11TH :—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

(*Answer only eight questions.*)

1. Explain fully what is meant by the *distinct representability* and the *refinement* of a sensation.

2. Compare the sensations of Taste with those of Smell in regard to their respective Associability and Comparability.

3. Explain psychologically the effect of Melody and Harmony.

4. Prove that we can perceive neither plane nor solid extension by sight alone.

5. Explain psychologically why we see objects erect by means of an inverted retinal image.

6. Explain the nature of Attention.

7. State the rival theories in regard to the *Primum Cognitum*, and show how they may be reconciled.

8. Distinguish Nominalism and Conceptualism, and explain how they may be reconciled.

9. Distinguish the object of Logic from that of Psychology.

10. Describe Idealization in general and its distinctive forms; *or* give a psychological analysis of the Creative Imagination, showing in what sense it is, in what it is not, really creative.

11. Define Hallucination, and describe its causes; *or* describe the essential features of Hypnotism, and point to their analogues in normal mental life.

12. Show wherein Associationism fails to explain the facts of mental life.

B.A. ORDINARY EXAMINATION.

MURRAY'S INTRODUCTION TO ETHICS.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiners, ... { J. CLARK MURRAY, LL.D. / REV. PROF. MACADAM.

1. What is the field of the Science of Ethics?

2. Examine the Empirical explanation of the origin of Moral Consciousness, *or* state the Transcendental theory.

3. State and illustrate the characteristic by which moral actions are differentiated from actions that are non-moral.

4. Show how the moral consciousness tends to advance from diversity towards uniformity in regard to the quality which makes an action good; *or* trace the development of the consciousness of Desert.

5. Discuss the Problem of Volition.

6. Sketch the two main lines of ethical theory regarding the Supreme Law of Duty.

7. Criticise the allegation that pleasure is the ultimate object of all human action; *or* distinguish the various forms of the theory which makes the rightness of an action consist in its power of giving pleasure.

8. Show that the empirical fact of what *is actually* most desired does not prove what *ought to be* most desired by men; *or* show the impossibility of practically applying the Utilitarian Criterion of rightness.

9. Give an outline of Kant's ethical views; *or* sketch the history of ancient Stoicism and the ethical views of Cudworth, Clarke and Wollaston.

B.A. ORDINARY EXAMINATION.

MURRAY'S INTRODUCTION TO ETHICS.

FRIDAY, APRIL 1ST:—AFTERNOON, 2 TO 5.

Examiners, ... { J. CLARK MURRAY, LL.D. / REV. PROF. MACADAM.

1. Explain the general classification of moral obligations and its main subdivisions; *or* explain the position which should be assigned to the so-called Duties to God and Duties to the Lower Animals.

2. Explain the sense in which society may be spoken of as an organism *or* distinguish the functions of the Family, the State and the Church.

3. What are the Duties of Justice in reference to physical life, *or* those that refer to mental life?

4. Explain the theories of punishment, and their influence on Criminal Jurisprudence; *or* give an account of the Duties of Benevolence.

5. Define Virtue, and give the Platonic classification of the Virtues.

6. In what does the general, *or* in what does the special, education of the conscience consist?

7. Show how emotional culture is qualified by emotions being dependent both on objective and on subjective conditions; *or* describe the two extremes which give a faulty character to the emotional life.

8. Distinguish negative and positive virtue.

THIRD YEAR HONOURS.

PLATO'S THEAETETUS AND GREEK PHILOSOPHY.

WEDNESDAY, 6TH APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

I. Plato's Theaetetus.

1. Tell the occasion on which the dialogue is represented as having been held, describing the several speakers.

2. State the exact question discussed, and the various theories suggested as answers.

3. Connect the first theory with a famous doctrine of Protagoras; and explain the objection to this theory, founded on the fact that we perceive rather "through" the senses than "by" them.

4. In connection with the third theory explain the various meanings that are given to the term λογος.

II. Greek Philosophy.

1. Sketch the Pythagorean Philosophy; *or* give an outline of the arguments of Zeno, explaining their purpose in relation to the Philosophy of the Eleatic School.

2. Describe the teaching of Socrates, especially its method; *or* sketch any of the schools of Imperfect Socratics.

3. Give an outline *either* of the Dialectic *or* of the Ethics of Plato.

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4. Explain fully Aristotle's doctrine of causes, *or* give an outline of his Physics.

5. Sketch the prominent features of the Stoical Ethics.

6. Distinguish three periods in the history of Scepticism, and give some account of one.

THIRD YEAR HONOURS.

WEDNESDAY, 20TH APRIL :—MORNING, 9 TO 12.

Examiner, ... J. CLARK MURRAY, LL.D.

I. *Fraser's Selections from Berkeley.*

1. State Berkeley's doctrine with regard to abstract ideas, and its connection with his doctrine regarding the existence of matter.

2. "It will be objected, that from the foregoing principles it follows, things are every moment annihilated and created anew. The objects of sense exist only when they are perceived." Give the substance of Berkeley's reply.

3. Explain Berkeley's theory of Visual Language, *or* his explanation of what is meant by the Laws of Nature.

II. *James' Principles of Psychology.*

1. What are the two opposite theories with regard to the Law of Contrast?

2. Write a brief note on different kinds of Imagination, *or* on the neural process which underlies Imagination.

3. Give a summary of James' theory of the Perception of Space, *or* of any other theory which he mentions.

4. "The true opposites of belief, psychologically considered, are doubt and inquiry, not disbelief." Explain, giving some account of the nature of belief.

THIRD YEAR HONOURS.

LOGIC :—MILL, *Books IV and V.* THOMSON, *Outlines.*

FRIDAY, 22ND APRIL :—9 A.M.

Examiners, ... { J. CLARK MURRAY, LL.D. / P. T. LAFLEUR, M.A.

1. Discuss, clearly but briefly, the following points:

(*a*) Language as the best means of communication.

(*b*) The relation between thought and language, and their mutual dependence.

(*c*) The distinction between truths *a priori* and truths *a posteriori*

2. Give the substance of Thomson's remarks on Realism, Nominalism and Conceptualism.

3. Explain briefly the position of Thomson and Hamilton as regards the Quantification of the Predicate; and express some opinion on the nature and results of the discussion.

4. Distinguish between Deduction and Induction, with an original illustration of each.

5. Give Thomson's list of the degrees of Modality in an ascending scale.

6. Summarise Mill's view of "the instrumentality of general conceptions in the comparison which necessarily precedes Induction;" and contrast it with that of Whewell.

7. What are the requisites of a philosophical language?

8. Give the list of *a priori* fallacies; and discuss fully, with examples, any one of them.

9. Discuss briefly the use of Analogy and Metaphor in reasoning; and shew their application to a special case.

E. A. HONOURS.

MAINE'S ANCIENT LAW.

MONDAY, 14TH DEC.:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

Write notes on any four of the following subjects:—(1) The jural condition of primitive society before the formation of codes; (2) The historical connection between the doctrine of a Law of Nature and the Roman *Jus Gentium*; (3) The agencies by which Law is brought into harmony with a progressive society; (4) The nature and origin of the Roman *Patria Potestas*; (5) Early history of Testamentary Succession; (6) Early history of Contract; (7) Primitive conception of Crime; (8) Influence of Roman Jurisprudence on Latin Theology.

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B. A. HONOURS.

ZELLER'S STOICS, EPICUREANS AND SCEPTICS.

THURSDAY, DEC. 17TH :—AFTERNOON, 2 to 5.

Examiner,.....J. CLARK MURRAY, LL.D.

1. (*a*) Tell what you know of the founder of the Stoical School and his immediate followers. (*b*) Describe the position of Chrysippus in the history of Stoicism.

2. Explain the materialistic and the pantheistic aspects of the Stoical Science of Nature.

3. Explain the Stoical Ethics in its general principles.

4. Tell what you know of Epicurus and his School.

5. Sketch the Epicurean Science of Nature.

6. Explain the Epicurean Ethics, either (*a*) in its general principles, or (*b*) in application to particular moral relations.

7. Tell what you know of the principal names connected with the New Academy.

8. Sketch the sceptical doctrines either of Pyrrho or of Karneades.

B.A. HONOURS.

GREEN'S PROLEGOMENA TO ETHICS.

MONDAY, 28TH MARCH :—AFTERNOON, 2 TO 5.

Examiner, ...J. CLARK MURRAY, LL.D.

(*Answer only six questions.*)

1. What are the two senses in which Kant's dictum may be understood, that "the understanding makes nature"?

2. Explain either of them.

3. How can the presence of an eternal principle in our consciousness be reconciled with the apparent fact that that consciousness varies and grows?

4. "A mere *want* is strictly natural, but a *motive* is not a natural phenomenon." Explain.

5. Explain Green's conception of Will.

6. "The distinction between the good and the bad will is the basis of Ethics." Explain how this would be understood by the Utilitarian and by Kant respectively.

7. Distinguish the Personal and the Formal Character of the Moral Ideal.

8. In what sense is the idea of justice, and of a duty to man as man, *a priori*; in what sense, *a posteriori*?

9. Point out the limitation of Aristotle's conception of Temperance or Self-denial, as compared with the modern ideal.

10. Explain the practical value of a theory of the Moral Ideal.

B.A. HONOURS.

ARISTOTLE'S NICOMACHEAN ETHICS.

TUESDAY, 5TH APRIL:—MORNING, 9 TO 12.

Examiner,.....J. CLARK MURRAY, LL.D.

(*Answer only eight questions*)

1. Explain the ground of Aristotle's division of the Virtues into Ethical and Dianoetic.

2. Define Ethical Virtue, illustrating the definition by two examples.

3. Explain the distinction between the different Dianoetic Virtues.

4. In what sense does Justice come under the definition of Ethical Virtue?

5. Explain the distinction between the different kinds of Justice.

6. Distinguish three forms of evil that are to be avoided in the moral life with their several opposites.

7. Distinguish the different forms of Friendship.

8. Describe the different kinds of political constitutions, and the corruptions to which they are severally subject.

9. Distinguish different kinds of Self-love.

10. Give Aristotle's summation of what constitutes Happiness.

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B. A. HONOURS.

MENTAL AND MORAL PHILOSOPHY.

SPINOZA'S ETHICS.

FRIDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,..... J. CLARK MURRAY, LL.D.

(*Answer only eight questions.*)

1. Define Substance, Attribute, Mode, Free, Necessary, Eternity.

2. Give the principal propositions deduced from the definition of Substance.

3. What is meant by Natura naturans and Natura naturata?

4. Give the substance of the appendix to Part I, on certain prejudices.

5. Prove that thought and extension are attributes of God.

6. Explain the distinction between (*a*) the three kinds of knowledge, (*b*) the three primitive emotions (affectus).

7. Define Adequate Idea, Adequate and Inadequate Cause, Action and Passion.

8. Define Good, Evil, Virtue; and prove that "the highest good of the mind is the knowledge of God, and the highest virtue of the mind is to know God."

9. Show further that this highest good and virtue consist in knowing things by the third kind of knowledge.

10. "Affectus, qui passio est, desinit esse passio, simulatque ejus claram et distinctam formamus ideam." Explain

11. "Ex tertio cognitionis genere oritur necessario amor Dei intellectualis." Explain.

B.A. HONOURS.

LORIMER'S INSTITUTES OF LAW.

THURSDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner, ... J. CLARK MURRAY, LL.D.

1. Distinguish the Different Schools of Jurisprudence.

2. Explain the relation of the Historical Method to the Philosophical.

3. Explain Burke's statement, that "all human laws are, properly speaking, declaratory."

4. Give some account of the distinction between Perfect and Imperfect Obligations.

5. Explain the relation of Jurisprudence and Ethics.

6. Explain the ideas of Liberty and Equality.

7. Distinguish (*d*) the two sources, (*b*) the two objects of Positive Law.

8. Give in detail the secondary sources.

B. A. HONOURS.

THE PHILOSOPHY OF KANT.

WEDNESDAY, 20TH APRIL:—MORNING, 9 TO 12.

Examiner, ...J. CLARK MURRAY, LL. D.

(*Answer only eight questions.*)

1. Explain the relation of Kant's three Critiques.

2. Give the main divisions and subdivisions of the first Critique, stating the subject of each.

3. Explain how Kant reaches the Pure Conceptions of the Understanding, and give his table of them.

4. Explain the procedure by which the Pure Conceptions of the Understanding are applied to phenomena of experience.

5. State and explain the third class of Principles of the Pure Understanding.

6. What is meant by the Transcendental Illusion?

7. Distinguish the Paralogisms, the Antinomies, and the Ideal, of Pure Reason.

8. State the different proofs for the existence of the Ideal of Pure Reason, and show that they all ultimately rest on one.

9. Explain what are the Principle, the Object, and the Motive, of Pure Practical Reason.

10. What is (*a*) the Antinomy of the Pure Practical Reason, (*b*) the critical solution of the Antinomy?

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11. Distinguish the Determinant from the Reflective Judgment, and state the Transcendental Principle of the latter.

12. Explain the Antinomy of Teleological Judgment, and the solution of the Antinomy.

B. A. HONOURS.

HISTORY OF MODERN PHILOSOPHY.

THURSDAY, 21ST APRIL:—MORNING, 9 TO 12.

Examiner,..... J. CLARK MURRAY, LL.D.

1. Give an estimate of Bacon's position in the history of philosophy.

2. Give an outline and criticism of Locke's polemic against the doctrine of Innate Ideas.

3. Give a brief account of the Ethics of any three of the following:—Hobbes, Cudworth, Clarke, Wollaston, Shaftesbury, Adam Smith.

4. Explain the Monadology of Leibnitz, and his theory of a Pre-established Harmony.

5. Sketch the philosophy of Malebranche.

6. Explain fully the meaning of Berkeley's Idealism.

7. Give a brief account of the Empirical writers of France in last century.

8. Explain the influence of Hume upon the course of modern philosophy.

B. A. HONOURS.

LOGIC:—MILL, *Book VI;* DESCARTES, *Method and Meditations.*

SATURDAY, 23RD APRIL:—9 A.M.

Examiners,..... { J. CLARK MURRAY, LL.D.
P. T. LAFLEUR, M.A.

1. What are the four precepts adopted by Descartes as the basis of his Method, which he substitutes for the rules of Logic?

2. Give in outline the substance of the primary deductions drawn by Descartes in the *Method* from the principle "Cogito, ergo sum."

3. What are the main purposes of the *Meditations?* Write the fundamental propositions given in these discourses upon which the Cartesian

system is based; and shew, with the help of example and contrast, that the Cartesian mode of procedure is eminently characteristic of French philosophical thought.

4. Discuss "the real distinction between the mind and the body of man" as set forth in *Meditation VI.*

5. Summarise Mill's conclusions regarding the meaning of the word *Necessity*, as applied to moral actions; and make some remarks as to the influence of this view on the fact of individual moral responsibility.

6. Explain carefully why the study of human character, single or collective, must be carried on, not empirically, but deductively.

7. Explain, in outline the Inverse Deductive or Historical Method; and discuss at some length the nature of its terminal step, Verification.

8. What is the exact philosophical meaning of Teleology? Give your own opinion of the value of this principle as an instrument, not in practice, but in speculative thought.

FRENCH AND GERMAN.

FRENCH.

FIRST YEAR.

MONDAY, APRIL 11TH:—MORNING, 9 TO 12.

Examiners,..... { P. J. DAREY, MA., LL.D.
Rev. J. L. MORIN, M.A.

1. Translate into English:

Sois (*a*) assurée (*b*), Frosine, de ma reconnaissance si tu viens à bout, (*c*) de la chose. (*d*) Mais, charmante Mariane, commençons, je vous prie, par gagner votre mère; c'est toujours beaucoup faire que (*y*) de rompre ce mariage. Faites (*f*) de votre part, je vous en conjure, tous les efforts qu'il vous sera possible (*g*). Servez-vous de tout le pouvoir que vous donne sur elle cette amitié (*h*) qu'elle a pour vous. Déployez sans réserve les grâces éloquentes, les charmes tout puissants que le ciel a placés (*i*) dans vos yeux et dans votre bouche; et n'oubliez rien, s'il vous plaît, de ces tendres paroles, de ces douces prières, et de ces caresses touchantes, à qui je suis persuadé qu'on ne saurait (*j*) rien refuser.

Molière, l'Avare A. IV., S. II.

2. (*a*) At what tense and mood is this verb? (*b*) Why is *assurée* thus written? (*c*) What do you call this expression *venir à bout de quelle chose?* (*d*) What is that expression *que de rompre*

called? (*f*) To what does *y* refer? (*g*) What word is understood here? (*h*) Is *amitié* the proper word? (*i*) Why is *placés* thus written? (*j*) For what other verb is *saurait* used?

3. Write a short sketch of the character of Maître Jacques and Elise.

4. Write correctly the past participles in the following sentences, and give fully the rules:—J'ai *remarqué* avec plaisir que vous aviez *fait* dans cette édition tous les changements que vous aviez *résolu*. Les grands orateurs que j'ai *entendu* parler, m'ont rallié un moment du moins aux opinions que je leur ai entendu soutenir. Que les secrets qui te sont *confié* restent ensevelis dans ton cœur, oublie même ceux que tu as *entendu*. Il est vrai que lui et moi nous nous sommes *parlé* des yeux. Que de soins m'eût *coûté* cette tête charmante! (Translate those sentences)

5. When is subjunctive mood used? State six cases with examples. When do you use the Pluperfect of the Subjunctive? Give one example. What does the Preterite Definite express? When is it used? Give one example.

6. When is *que* a pronoun, when an adverb, and when a conjunction? Give an example of each.

7. *Write the French of:* a voyage, an inn, a fireman, the path, the greenhouse, a mortgage, a plough, a scythe, a bill of lading, a wheelwright. And in English: une bêche, un hêtre, le lierre, le houblon, l'orge, une taie, un étage, le seuil, le bûcher, la chaire.

8. Translate:—Bring a light, I cannot see any more. Is there a fire in the drawing room? No, there is none. Have the fire lighted. Light the fire. You have let the fire go out. Where is the poker?

9. Translate into French: My mother is useful to, and beloved by her friends. Charity rejoices in the happiness of others. I found that she had grown very old. You are the most learned man in this town. She read to the King the actions of great men, in order that he might govern his kingdom after their maxims. We wrote to him in order that he might come. You might live on your salary if you were more economical. There are flowers around and upon the table. I fear lest it may rain. Are you afraid that he may do it?

La Fontaine.

10. *Translate:* Of the works of that author, nothing can be recommended except his fables. In these he has surpassed every other

writer, and the name of the Inimitable La Fontaine has been given him by common consent. His fables are perfectly natural and replete with wit. He was a men of extreme simplicity of manners; full of candor and probity; but in society he was always absent minded and thoughtful, so much so that he often spoke to his friends without knowing them.

INTERMEDIATE EXAMINATION.

MONDAY, APRIL 11TH:—MORNING, 9 TO 12.

Examiners, ... { P. J. DAREY, LL.D. / REV. CHAS. TANNER. / REV. J. L. MORIN, M.A.

1. Translate into English:—

Assuérus continue en s'adressant à Mardochée.

Mortel chéri du ciel, mon salut et ma joie,
Aux conseils des méchans ton roi n'est plus en proie;
Mes yeux sont dessillés, le crime est confondu:
Viens briller près de moi dans le rang qui t'est dû.
Je te donne d'Aman les biens et la puissance:
Possède justement son injuste opulence.
Je romps le joug funeste où les Juifs sont soumis;
Je leur livre le sang de tous leurs ennemis;
A l'égal des Persans je veux qu'on les honore,
Et que tout tremble au nom du Dieu qu'Esther adore.
Rebâtissez son temple, et peuplez vos cités;
Que vos heureux enfans dans leur solennités
Consacrent de ce jour le triomphe et la gloire,
Et qu'à jamais mon nom vive dans leur mémoire.

Racine, Esther, Ac. III., Sc. III.

2. And also.

La vieille fille.

Eh! oui: voilà mon unique chimère.
Ah! si l'on tenait plus au cœur qu'à la beauté,
Il trouverait en moi des trésors de bonté;
Je serais indulgente, et point du tout jalouse,
Une amie, en un mot, beaucoup plus qu'une épouse.
—J'étais plus exigeante, en ma jeune saison;
L'âge et l'isolement m'ont mise à la raison.

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C'est triste, voyez-vous, de vieillir solitaire,
Sans affection vraie, inutile sur terre :
Plût au ciel que.....quelqu'un me permît aujourd'hui
De l'aimer, pour l'aimer, sans rien vouloir de lui !
—Mais, bah ! tous ces projets ne sont que badinage.
Et l'on n'épouse pas les filles de mon âge.

Ponsard, L'Honneur et l'Argent. Ac. IV. s. X.

3. Translate into English, the expressions from L'Honneur et L'Argent.

Travaille à ses heures. Je m'en faisais fête. Si je leur livrais mes rentes en pâture. Pied-plat. Etre sur le grabat. Tu vois tout en laid. La regardant entre ses yeux. Le voit d'un fort bon œil. J'étais trop à mon deuil. Je suis d'une trempe assez forte. Et je fais peu de cas. Ce trait me raccommode avec le genre humain. C'est louche. Ils se mettraient au feu. Je n'ai garde d'entamer un débat.

4. (*a*) What are the characteristics of the French literature of the 17th century ? (*b*) Contrast it with the literature of the 18th century.

5. Who wrote : (1) *Le Discours de la méthode.* (2) *Les Provinciales.* (3) *Les plaideurs.* (4) *Le Tartuffe.* (5) *Le Lutrin.* (6) *Les Maximes.* (7) *La Henriade.* (8) *Le Dialogue de Sylla et d'Aucrate.* (9) *Les Epoques de la nature.* (10) *Le Diable boiteux.* When did those authors live ?

6. Give a sketch of the life of Ronsard, Racine, La Fontaine, J. J Rousseau.

7. Translate from Rasselas, chap. IV.

These sorrowful meditations fastened upon his mind ; he passed four months in resolving to lose no more time in idle resolves, and was awakened to more vigorous exertion by hearing a maid, who had broken a porcelain cup, remark : That what cannot be repaired is not to be regretted.

8. Translate into English :

En vouloir à quelqu'un. S'y prendre. Y aller de. C'est à qui l'aura. Il y va de son tout. Me ferez-vous part des nouvelles ? Etre aux prises. Venir à bout de. Cet homme ne fait cas que de l'argent. Revenons à nos moutons. Cela n'est pas à ma portée. Veuillez m'accuser réception de ma lettre. *And in French* : How far on are you ? He has just come in. To rule in a haughty manner. Let us come to a right understanding. What is that to you ? I owe him a grudge. To be unlucky at play. It is very easy for him to say so.

THIRD YEAR.

THURSDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., LL.D.

Toutes les réponses doivent être écrites en français.

1. Faites l'analyse *du Cid*. D'où le sujet est-il tiré? Pourquoi Rodrigue se bat-il avec le père de Chimène?

2. Quels sont les trois combats de Rodrigue dans *Le Cid*?

3. A quel caractère donnez-vous la préférence dans *Le Cid*? Donnez des raisons de cette préférence.

4. Traduisez en anglais:—

Elvire. Il vous prive d'un père, et vous l'aimez encore!

Chimène. C'est peu de dire aimer, Elvire, je l'adore.
Ma passion s'oppose à mon ressentiment;
Dedans mon ennemi je trouve mon amant;
Et, je sens qu'en dépit de toute ma colère,
Rodrigue dans mon cœur combat encore mon père.

Corneille, Le Cid, A. III., S. III.

5. Et traduisez encore:—

Malgré cette quantité de personnes réunies, on eût entendu les ailes d'une mouche. Le seul bruit qui s'élevât était celui des plumes qui couraient rapidement sur le papier, et une voix grêle qui dictait, en s'interrompant pour tousser. Elle sortait d'un immense fauteuil à grands bras, placé au coin du feu, allumé en dépit des chaleurs de la saison et du pays. C'était un de ces fauteuils qu'on voit encore dans quelques vieux châteaux, et qui semblent faits pour s'endormir en lisant, sur eux, quelque livre que ce soit, tant chaque compartiment en est soigné: un croissant de plumes soutient les reins; si la tête penche, elle trouve ses joues reçues par des oreillers couverts de soie, et le coussin du siège déborde tellement les coudes qu'il est permis de croire que les prévoyants tapissiers de nos pères avaient pour but d'éviter que le livre ne fît du bruit et ne les réveillât en tombant.

Alfred de Vigny, Cinq-Mars.

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6. Dites ce que vous savez sur Alfred de Vigny, André Chénier, Michelet.

7. Quels sont les auteurs de l'*Histoire de Marie Stuart*, l'*Histoire de dix ans* (quels dix ans?) Les *Vêpres Siciliennes*, les *Souvenirs du peuple*, les *Méditions*, les *Ruines*, le *Traité des études*, l'*Histoire des ducs de Bourgogne*.

8. Qui est-ce qui a écrit?

Mes besoins ne sont pas nombreux ;
Mais quand je pense aux malheureux
Je me sens né pour être riche.

9. Traduisez en français :—

Every hour, answered the princess, confirms my prejudice in favour of the position so often uttered by the mouth of Imlac. 'That nature sets her gifts on the right hand and on the left.' Those conditions which flatter hope and attract desire, are so constituted, that as we approach one, we recede from another. There are goods so opposed that we cannot seize both, but by too much prudence, may pass between them at too great distance to reach either. This is often the fate of long consideration : he does nothing who endeavours to do more than is allowed to humanity. Flatter not yourself with contraries of pleasure. Of the blessings set before you make your choice and be content.

Johnson, Rasselas

10. Traduisez en français :—

That has nothing to do with me; you may do as you think proper, you are your own master. I am a quarter's rent behind. He smiled and received me with open arms. I will walk rather than pay so much. Such an act ought to make him blush with shame. Your brother was not ready, I was therefore compelled to go without him. He is a distant relation of whom I never my father to speak. Et en anglais : Venez au-devant de moi à la station, j'arriverai par le convoi de midi et demi. Je vois où vous voulez en venir. Les voies de fait ne prouveront pas que vous ayez raison.

Cogery, third year course.

B.A. ORDINARY EXAMINATION.

THURSDAY, APRIL 14TH :—MORNING, 9 TO 12.

Examiner, ...P. J. DARBY, M.A., LL.D.

Toutes les réponses doivent être écrites en français.

1. Où Corneille naquit-il? Quand? Où reçut-il son éducation? A quelle carrière était-il destiné? Qu'est-ce qui attira son attention vers la littérature? Quelle fut sa première pièce?

2. D'où le sujet du *Cid* est-il tiré? Quel est le véritable sujet de cette tragédie? Quel est le *nœud* de la pièce? Faites en connaître le *dénoûment*.

3. Décrivez les trois caractères principaux du *Cid*. Lequel préférez-vous?

4. Que pensez-vous du caractère de l'Infante et de celui de Don Sanche?

5. Quelles sont les deux scènes principales de cette pièce? Citez quelques vers du Cid.

6. Traduisez en anglais :—

Prodigue.—Crains-tu si peu le blâme, et si peu le faux bruits?
Quand on saura mon crime, et que ta flamme dure,
Que ne publieront point l'envie et l'imposture!
Force-les au silence, et sans plus discourir,
Sauve ta renommée en me faisant mourir.

Chimène.—Elle éclate bien mieux en te laissant la vie;
Et je veux que la voix de la plus noire envie
Elève au ciel ma gloire et plaigne mes ennuis,
Sachant que je t'adore et que je te poursuis,
Va-t-en, ne montre plus à ma douleur extrême
Ce qu'il faut que je perde, encore que je l'aime
Dans l'ombre de la nuit cache bien ton départ:
Si l'on te voit sortir, mon honneur court hasard.
La seule occasion qu'aura la médisance,
C'est de savoir qu'ici j'ai souffert ta présence:
Ne lui donne point lieu d'attaquer ma vertu.

Corneille, Le Cid, A. III et IV.

7. Traduisez en anglais :—Son sang criera vengeance, et je ne *l'orra* pas! Dites à quel temps est *orra*, et quel est l'infinitif?

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8. Quels sont les auteurs des *Soirées de Saint Petersbourg ; de l'Histoire des Croisades ;* des *Dix années d'exil : d'Atala*, de *Louis XI ;* du *Premier Regret* (quel était ce regret ?) ; de *l'Ecole des Vieillards.*

9. Ecrivez une petite biographie de *Chateaubriand* et de *Guizot.* Faites connaître leurs caractères, et leurs ouvrages.

10. Traduisez les vers suivants, et dites qui en est l'auteur :

Le jardin (*a*) était grand, profond, mystérieux,
Fermé par de hauts murs aux regards curieux
Semé de fleurs s'ouvrant ainsi que des paupières,
Et d'insectes vermeils qui couraient sur les pierres,
Plein de bourdonnements et de confuses voix ;
Au milieu presque un champ, dans le fond presque un bois.

(*a*) Quel jardin ?

11. Traduisez en français :—

After the steward of the hospitals has taken for the sick whatsoever the physician prescribes, then the best things that are left in the market are distributed equally among the halls, in proportion to their numbers, only in the first place, they serve the Prince, the Tranibors, the ambassadors and strangers, if there are any, which indeed falls out but seldom, and for whom there are houses well furnished, particularly appointed for their reception when they come among them. At the hours of dinner and supper, the whole Syphogranty being called together by the sound of trumpet, they meet and eat together except only such as are sick in the hospitals, or lie sick at home.

Thomas More, Utopia.

12. Traduisez en français :—

That business does not suit me ; I wish to give it up. Does he intend to go with us ? Just sound him about it. He wrongs himself when he acts thus. He was caught in the act. You took my remarks the wrong way. I cut my way through the crowd to inform him of what had occurred. It is to be regretted that, in company, he makes himself so forward. In the twinkling of an eye I will be dressed. You always enlarge so much upon your topics, that one feels inclined to yawn. *Et en anglais.* Il me regarda d'un air narquois et fit claquer sa langue avec un rire moqueur. Il me survient une idée étrange.

THIRD YEAR HONOURS.

THURSDAY, APRIL 21ST :—MORNING, 9 TO 12.

Examiner, ...P. J. DAREY, M.A., LL.D.

1. Quel est le véritable sujet de la tragédie d'Horace ?

2. D'où Corneille a-t-il tiré la tragédie d'Horace ?

3. Quels sont les principaux caractères de cette tragédie ?

4. Faites l'analyse de la tragédie d'Horace.

5. Qui est-ce qui a dit ce fameux vers ;

"Faites votre devoir, et laissez faire aux dieux !" Quand ?

6. Décrivez les caractères des deux Horaces.

7. Faites connaître le caractère de Curiace l'amant de Camille. Comparez le jeune Horace à Curiace. Citez quelques vers pour les faire connaître.

8. Qu'est-ce que vous pensez du meurtre de Camille Quand et pourquoi Horace commit-il cette atrocité ?

9. Comparez Sabine à Camille. Citez quelques vers de chacune qui les font connaître.

10. Qui a prononcé le plaidoyer héroïque suivant ? Quand ? Traduisez-le :

Lauriers, sacrés rameaux qu'on veut réduire en poudre,
Vous qui mettez sa tête à couvert de la foudre,
L'abandonnerez-vous à l'infâme couteau
Qui fait choir les méchants sous la main du bourreau ?
Romains souffrirez-vous qu'on immole un homme
Sans qui Rome aujourd'hui cesserait d'être Rome,
Et qu'un Romain s'efforce à tacher le renom
D'un guerrier à qui tous doivent un si beau nom ?
Dis, Valère, dis-nous si tu veux qu'il périsse,
Où tu penses choisir un lieu pour son supplice ;
Sera-ce entre ces murs que mille et mille voix
Font résonner encor du bruit de ses exploits ?
Sera-ce hors de ces murs, au milieu de ces places
Qu'on voit encore fumer encor du sang des Curiaces
Entre leurs trois tombeaux, et dans ce champ d'honneur
Témoin de sa vaillance et de notre bonheur ?
Tu ne saurais cacher sa peine à sa victoire :
Dans les murs, hors des murs, tout parle de sa gloire

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11. Comparez la tragédie d'Horace à celle du Cid sous le rapport de la sublimité du sujet, de l'héroïsme déployé dans chacune de ces pièces.

12. En combien de chants l'*Art Poétique* est-il divisé? Quels sont les auteurs qui avaient déjà traité ce sujet?

13. De quoi traite le premier chant? A quelle époque Boileau fait-il remonter la poésie française? Est-il exact? Développez votre réponse.

14. Citez quelques préceptes de Boileau sur l'art d'écrire.

15. A quoi le 2me chant est-il consacré?

16. Quel est l'objet du 3me chant? Quels préceptes Boileau donne-t-il sur les différents sujets de ce chant? Quelle étrange omission Boileau fait-il d'un genre bien reconnu à présent?

17. De quoi traite le 4e chant?

18. Combien Racine a-t-il écrit de comédies? Que pensez-vous du style des Plaideurs?

19. De quel auteur ancien Racine a-t-il pris le sujet de *Phèdre*? Quelle est l'idée morale de *Phèdre*? Faites-en une courte analyse.

20. Traduisez en français :

Our little habitation was situated at the foot of a sloping hill, sheltered with a beautiful underwood behind, and a prattling river before, on one side a meadow, on the other a green. My farm consisted of about twenty acres of excellent land, having given a hundred pounds for my predecessor's good-will. Nothing could exceed the neatness of my little enclosures, the elms and hedge-rows appearing with inexpressible beauty. My house consisted of but one storey and was covered with thatch, which gave it an air of great snugness; the walls on the inside were nicely white, washed, and my daughters undertook to adorn them with pictures of their own designing. Though the same room served us for parlor and kitchen that only made it warmer. Besides, as it was kept with the utmost neatness, the dishes, plates, and coppers being well scoured and all disposed in bright rows on the shelves, the eye was agreeably relieved and did not want richer furniture.

The Vicar of Wakefield, ch. IV.

THIRD YEAR HONOURS.

FRIDAY, APRIL 22ST :—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, MA., LL.D.

1. Ecrivez un récit de la vie de La Fontaine.

2. Qu'est-ce que la fable ?

3. Quels sont les fabulistes qui ont précédé La Fontaine ? En connaissez-vous qui lui aient succédé ?

4. Donnez votre jugement sur les fables de La Fontaine.

5. Nommez les six fables de La Fontaine que vous préférez. Donnez vos raisons de cette préférence. Citez des vers de ces fables.

6. Quelle est la morale des fables de La Fontaine ?

7. Quel caractère donne-t-il au lion ? au singe ? au renard ? à l'ours ? au chat ? Dans quelles fables peint-il ce caractères ?

8. Comment les Pensées de Pascal furent elles écrites ? De quoi traitent les Pensées ? Forment-elles un traité complet tel que l'avait conçu Pascal ? Ecrivez quelques-unes des pensées.

9. Citez quatre femmes auteurs XVIIe siècle. Quels ouvrages ont-elles écrits ? Quelle est la plus célèbre.

10. Quand est-ce que naquit St. Simon ? Décrivez le caractère de son père. Quelle éducation St. Simon reçut-il ? Sous quels règnes a-t-il vécu ? Quelle position occupa-t-il à la cour ? A quel âge mourut-il. Quelles étaient ses idées politiques ? Faites connaître ses écrits. Quel est le style de St. Simon ?

11. Faites connaitre Mme. de Maintenon. Dites tout ce que vous savez sur sa parenté—sa jeunesse—son œuvre—sa vieillesse.

12. Qu'est-ce que l'Hôtel de Rambouillet ? Quel objet s'y proposait-on ? Quels étaient les principaux personnages qui le fréquentait.

13. A quel idiome le gaulois se rattachait-il ? Où l'influence de Romains se fit-elle sentir en Gaule ? A quelle époque ?

14. Quelle différence y a-t-il entre le latin populaire et le latin littéraire ? Comment cette différence s'établit-elle ? Quel est celui qui se répandit dans les provinces ? Où l'autre se réfugia-t-il ? Citez-en des preuves.

15. Qu'est-ce que le *roman?*

16 Qu'est-ce que les dialects? Combien y en avait-il en France Enunérez-les et donnez-en les limites approximatives? Quel est celui qui a prévalu et est devenu la langue française? Pourquoi?

17 Qu'est-ce qu'on appelle *patois?* Y en a-t-il encore? Où?

18. Qu'appelle-t-on *Renaissance?* Quand a-t-elle eu lieu? Sous quel roi la langue française devint-elle officielle dans les tribunaux, les actes publics.

19. Quelle différence faits-vous entre un *son* et un *bruit?* Par quoi les *sons* sont-ils formés, et par quoi les *bruits?*

20. Qu'est-ce que vous appelez voyelles *toniques* et voyelles *atones.* Où l'accent tonique se trouvait-il en latin? Qu'est-ce que l'accent secondaire? Donnez-en des exemples.

B.A. HONOURS,

WEDNESDAY, APRIL 20TH:—MORNING, 9 TO 12.

Examiner,.....P. J. DAREY, M.A., LL.D.

1. Traduisez en français :—

Oliver.—Charles, I thank thee for thy love to me, which thou shalt find I will most kindly requite. I had myself notice of my brother's purpose herein, and have by underhand means labored to dissuade him from it; but he is resolute. I'll tell thee, Charles,—it is the most stubbornest young fellow of France; full of ambition, an envious emulator of every man's good parts, a secret and villainous contriver against me his natural brother; therefore use thy discretion; I had as lief thou didst break his neck as his finger. And thou were best look to't; for if thou do'st him any slight disgrace, or if he do not mightily grace himself on thee, he will practise against thee by poison, entrap thee by some treacherous device, and never leave thee till he hath ta'en thy life by some indirect means or other; for, I assure thee, and almost with tears I speak it, there is not one so young and so villanous this day living. I speak but brotherly of him; but should I anatomize him to thee as he is, I must blush and weep and thou must look pale and wonder.

Shakespeare, *As you Like it,* A. 1, S. 1.

2. Donnez l'analyse du *Philosophe sous les toits.*

3. En quoi consiste l'intérêt de cet ouvrage?

4. Traduisez en anglais les phrases suivantes du Philosophe sous les toits :

Cette espèce de désintéressement d'amour-propre m'a touché. Il m'a promis de garnir sa porte de bourrelets. J'ai bien eu aussi des instants, me disait-il l'autre jour, où j'aurais été porté à cousiner avec le diable. Quand la fatigue prenait le dessus. La Patrie ! Il ne s'agissait pas seulement de la défendre, il fallait l'agrandir et la faire aimer. Simple comme lebonjour. Pourquoi ne pas laisser quelque ancien plus démoli que toi prendre ses invalides chez le commandant? Allons, troupier quelques charges à fond puisqu'il te reste du Poignet !

5. Quelle espèce de comédie est le Misanthrope de Molière ?

6. En quoi consiste l'intérêt de la pièce ?

7. Nommez les quatre scènes les plus intéressantes du Misanthrope.

8. Racontez la vie de LaRochefoucauld. Quelle vieillesse eut-il ? Quelles étaient ses amies ? Comment les *Maximes* furent-elles écrites ?

9. Les *Maximes* ont-elles un effet agréable sur le lecteur ?

10. Qu'est-ce qu'il dit de l'amour-propre ?

11. Citez une dizaine des *Maximes*.

B.A. HONOURS.

THURSDAY, APRIL 21ST :—9 TO 12 A.M.

Examiner.....P. J. DAREY, M.A., LL.D.

1. Qu'est-ce que vous appelez *doublets ?* Donnez-en un exemple. D'où proviennent les *doublets ?*

2. Quel est le genre de *mi-carême, mi-janvier ?* Pourquoi ont-ils ce genre ?

3. Quels étaient les *cas* dans l'ancien français ?

4. Traduisez en français moderne :—

Amis Rollans prozdum, *juvente bele*
Cum jo serai ad Ais en *ma capele*
Viendront li hume, demanderunt *nuveles*
Je's lur dirrai *merveilluses* et *pesmes :*
Mors et *mis* niés ki tant suleit conquerre.

5. Que remarquez-vous sur les adjectifs ci-dessus ?

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6. Quelle était la signification de *Il* dans l'ancien français.

7. Quel était l'emploi de *soi* ?

8. Quelle différence y avait-il entre *nos* et *nôtre?* Quelle est celle qui existe encore ?

9. Quelle est l'origine des pronoms démonstratifs ?

10. De quoi sont formés *dont, autre, aucun moult, quelconque.*

11. Qu'appeliez-vous conjugaisons *mortes* et conjugaisons *vivante* Donnez-en des exemples.

12. Quelle différence y a-t-il entre ces deux phrases :—
Je lui *ai dit* qu'un homme tel que lui se *devait* à son pays et je lui *ai dit* qu'un homme tel que lui se *doit* à son pays.

13. Quelle trace de l'ancienne langue y a-t-il dans l'expression : *Je ne sache ?*

14. A quoi sert souvent le futur antérieur? Expliquez la différence qu'il y a entre ces deux phrases.—Vous n'avez pas réussi, c'est que vous aurez mal pris vos mesures; et Vous n'avez pas réussi, c'est que vous avez mal pris vos mesures.

15. D'où les adverbes tirent-ils leur origine ? Illustrez votre réponse par des exemples.

16. Où Montaigne naquit-il ? Comment fut-il élevé ? Qu'est-ce qu'il y a d'original dans son éducation ?

17. Quelle fut sa vocation ? Et quels services rendit-il à son pays ?

18. Quel était l'état politique et religieux de la France du temps de Montaigne ? Se mêla-t-il à la politique et aux débats religeux ?

19. Quel est le sujet des *Essais?* Comme œuvre littéraire, que pensez-vous des Essais? du style ? Comparez Montaigne à Rabelais et à Cavin.

20. Comment doit-on mesurer la grandeur d'un écrivain ?

21. Faites l'analyse du drame de Victor Hugo, *Hernani.*

22. Qu'est-ce qu'on appelle chansons de *gestes?* Quelles sont les principales ?

23. Qu'est-ce que le poème des Albigeois ? Où habitaient-ils ?

24. Racontez l'origine du drame au *Moyen Age.*

25. Faites le récit de la vie et des œuvres de *Rabelais* et de *Calvin.*

GERMAN.

FIRST YEAR.

THURSDAY, MARCH 31ST.

Examiner..... ..P. TOEWS, M.A.

I. Translate:—

Die Pfirsiche.

Ein Landmann brachte aus der Stadt fünf Pfirsichen mit sich, die schönsten, die man sehen konnte. Seine Kinder aber sahen die Frucht zum ersten Mal. Deßhalb wunderten und freuten sie sich sehr über die schönen Aepfel mit den rötlichen Backen und zartem Pflaum. Der Vater aber vertheilte sie unter seine vier Knaben und eine erhielt die Mutter.

Am Abend, als die Kinder in das Schlafkämmerlein gingen, fragte der Vater: „Nun, wie haben euch die schönen Aepfel geschmeckt?"—„Herrlich, lieber Vater," sagte der Aelteste. „Es ist eine schöne Frucht, so sanft von Geschmack. Ich habe mir den Stein sorgsam bewahrt, und will mir daraus einen Baum ziehen."—„Brav!" sagte der Vater, „das heißt haushälterisch auch für die Zukunft gesorgt, wie es dem Landmann geziemt."

„Ich habe die meinige sogleich aufgegessen, sagte der Jüngste, „und den Stein fortgeworfen, und die Mutter hat mir die Hälfte von der ihrigen gegeben. O, das schmeckte so süß und zerschmilzt einem im Munde."

1. Distinguish between Landmann and Landsmann; give the plural.

2.....wie haben euch die Schönen Aepfel, geschmeckt; parse euch.

3. Compare sanft.

4. Give the plural of Frucht and Stein.

5. Sehen, gingen, aufgegessen; give the principal parts.

Translate: 1. They would also have taken (machen) a walk (Spaziergang m.), if they had had time. 2. He would not have

praised this picture; (Gemälde) for it was not beautiful. 3. I asked him whether (ob) he had ever (jemals) been in this church. 4. He said, he had never (nie) been in it. 5. I have bought (kaufen) myself some apples. 6. My aunt (Tante) is now with me, I shall show (zeigen) her the city. 7. Which are his books? 8. I shall not wait (warten) for George, because I have no time. 9. If it had been I, he would have punished (bestrafen) me. 10. Are those the horses he bought the day before yesterday? 11. Has he not yet paid for them? 12. How long has he been in the city? 13. When will he go to the country again (wieder) 14. When he comes (kommen) home, tell him I am at the concert. 15. When I was in London, I resided (wohnen) at my uncle's. 16. A week ago I visited (besuchen) my parents.

SECOND YEAR.

Thursday, March 31st.

Examiner..... P. Toews, M. A.

I. Translate:

Aus dem Stalle traten der Roßkamm, der Schulze und ein Knecht, welcher zwei Pferde, das des Roßkammes und die erkaufte braune Stute, hinter sich herführte. Der alte Schulze sagte, indem er die Letztere zum Abschied streichelte: „Es thut Einem immer leid, wenn man eine Creatur, die man aufzog, losschlägt aber wer kann dawider?—Nun, halte dich brav, Bräunchen!" rief er und gab dem Thiere einen herzhaften Schlag auf die runden Schenkel.

Der Pferdehändler war indessen aufgestiegen und sah mit seiner langen Figur und der kurzen Schooßjacke unter dem breitkrämpigen lackirten Hute, mit seinen erbsengelben Hosen über den dürren Lenden und den hochhinaufreichenden ledernen Kamaschen, mit seinen Pfundsporen und mit seiner Peitsche wie ein Wegelagerer aus. Er ritt, ohne Lebewohl zu sagen, fluchend und wetternd davon, die Braune am Leitzaum nachziehend. Keinen Blick wandte

er nach dem Gehöfte zurück, die Braune dahingegen drehte mehrere Male den Hals um und wieherte wehmüthig, als wollte sie klagen, daß ihre gute Zeit nun vorüber sei Der Hofschulze blieb, die Arme in die Seite gestemmt, mit dem Knechte stehen, bis der Zug durch den Baumgarten verschwunden war. Dann sagte der Knecht: „Das Vieh grämt sich." „Warum sollte es nicht?" erwiderte der Hofschulze, „grämen wir uns doch auch. Komm auf den Futterboden, wir wollen Hafer messen."

1. trat, aufzog, loschlägt, messen: give the principol parts.
2. Distinguish between, der Hut and die Hut.
3. famaschen: how is that word generally spelled?
4. State the gender of Thier, Gehöft, Hafer.

II. Translate.—1. Shall we be permitted to burn our exercises, when we have finished (fertig sein mit) them? 2. We were not praised because we were not diligent. 3. As soon as (sobald) the lessons are learned, we shall take a walk. 4. That boy is not believed (glauben) because he once told an untruth (Unwahrheit). 5. For whose books were you looking? (suchen) 6. I was writing to my mother and Charles was writing to his, when the postman (Postbote) brought (bringen) us the letters. 7. Which do you prefer (vorziehen), riding (Reiten) or driving (Fahren)? 8. Which is poorer, he who has no money or he who has no friends?

9. The diver (Taucher) that jumped (springen) from the bridge (Brücke) has unfortunately been drowned (ertrinken) 10. These are my neighbours, of whom you have already (schon) heard so much. 11. What day of the month is it to-day? 12. The eldest son of the Queen of England was born (gebären) the ninth of November, one thousand eight hundred and forty-one. 13. Twenty-five years ago our neighbour possessed (besitzen) only a few hundred dollars, but now he is one of the richest men in the city. 14. The coachman drives (fahren) so slowly (langsam), that we shall not arrive before a quarter to twelve.

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THIRD YEAR.

THURSDAY, MARCH 31st.

Examiner,..... P. TOEWS, M.A.

I. Translate :

Werner. Mensch, ich glaube, du liesest ebenso wenig die Zeitungen als die Bibel. — Du kennst den Prinz Heraklius nicht, den braven Mann nicht, der Persien weggenommen und nächster Tage die ottomanische Pforte einsprengen wird? Gott sei Dank, daß doch noch irgendwo in der Welt Krieg ist! Ich habe lange genug gehofft, es sollte hier wieder losgehen. Aber da sitzen sie und heilen sich die Haut. Nein, Soldat war ich, Soldat muß ich wieder sein! Kurz — (indem er sich schüchtern umsieht, ob ihn jemand behorcht) im Vertrauen, Just; ich wandere nach Persien, um unter Sr. Königlichen Hoheit, dem Prinzen Heraklius, ein paar Feldzüge wider den Türken zu machen.

Just. Du?

Werner. Ich, wie du mich hier siehst! Unsere Vorfahren zogen fleißig wider den Türken, und das sollten wir noch thun, wenn wir ehrliche Kerls und gute Christen wären. Freilich begreife ich wohl, daß ein Feldzug wider den Türken nicht halb so lustig sein kann als einer wider den Franzosen; aber dafür muß er auch desto verdienstlicher sein, in diesem und in jenem Leben. Die Türken haben dir alle Säbels mit Diamanten besetzt —

1. lassen; Translate; Would you have sent for him? (holen lassen).

2. Accent. anschreiben, hinauswirft, aufpaßten, durchprügelten.

3. Give the plural of Major.

II. Translate :

Man erklärte den Abgeordeten, dasz die Zeit der Verträge vorbei sei, und dasz nur eine unbedingte, Unterwerfung den

erzürnten Monarchen besänftigen könne. Ja man liesz sie sogar befürchten, dasz man dieselbe Demüthigung von ihnen verlangen würde, zu welcher ihre rebellischen Vorfahren unter Karl dem Fünften sich hatten verstehen müssen, namlich halb nackt und mit einen Strick um den Hals, um Gnade zu flehen. Trostlos reisten die Abgeordneten zurück, aber schon am dritten Tage erschien eine neue Gesandtschaft, welche endlich auf die Fürsprache eines Freundes von dem Herzog von Parma, der in Gentischer Gefangenschaft war, noch unter erträglichen Bedingungen den Frieden zu Stande brachte, Die Stadt muszte, eine Geldbusze von zweimalhunderttausend Gulden erlegen, die verjagten Papisten zurückrufen und ihre protestantischen Bewohner vertreiben ; doche wurde den Letztern eine Frist von zwei Jahren vergönnt, um ihre Sachen in Ordnung zu bringen. Alle Einwoher, bis auf sechs, die man zur Strafe auszeichnete, aber nachher doch noch begnadigte, erhielten Verzeihung, und der Garnison, die aus zweitausend Mann bestand, wurde ein ehrenvoller Abzug bewilligt. Dieser Vergleich kam im September desselben Jahres im Hauptquartier zu Bevern zu Stande, und unmittelbar darauf rückten dreitausend Mann spanischer Truppen zur Besatzung ein.

1. Accent: Abgeordneten, Unterwerfung auszeichnete.

LITERATURE.

1. Criticise the poetry of Hans Sachs.

2. Account for the low state of German literature at the beginning of the 18th century.

3. Characterize the poetry of the Hainbund, and name the principal poets of that school.

III. Translate.—1. He told me he had had many a misfortune (Unglück). 2. The peasants asked the traveller what o'clock it was, and the latter took (ziehen) his watch out of his pocket and told them it was half-past twelve. 3. I beg your pardon (Verzeihung) for having left you alone so long. 4. I

wrote to my brother-in-law several months ago, but I think he is angry, for the letter has not yet been answered. 5. Last summer and autumn he wrote to me every month. 6. Will you be so kind as to tell her what that is in French? 7. I am sorry I cannot tell her; I do not know French. 8. I have been told, they would like to speak to you about (über) the matter. 9. I heard he died of cholera. 10. What is to become of me? 11. Do you consider that cloth (Tuch) dear? 12. Shall I send for (nach) a carriage? 13. No, it is not worth while (Mühe), I would rather walk. 14. Shakespeare is considered (halten) the greatest poet of the English nation.

B.A. ORDINARY EXAMINATION.

Examiner..... P. Toews, M.A.

I. Translate:—Goethe, aus meinem Leben. Book VII.

Betrachtet man genau..... .. ..wie sein Dichten.

II. Translate Schiller, Wallenstein Act II, Scene VI.

O! nimm der Stunde wahr.....unter Dach zu kommen suchen.

nimm der Stunde wahr. What other case does wahrnehmen govern?

2. Distinguish between ehe and bevor.

3. vieles, Distinguish between viel Menschen and viele Menschen. Give examples.

4. zerstreut. Translate er scheint sehr zerstreut zu sein.

5. Give the plural of Heer, Flut, Schiff, Gemüth, Pflicht; and state the gender of Gluth, Strand, Interesse, Dach.

Translate: One day the poet and banker (Bankier) Rogers took Thomas Moore and Sidney Smith home in his carriage from a breakfast, and insisted (bestehen auf) on showing them by the

way (unterwegs) Dryden's house in some obscure (obſcur) street. It was very wet weather; the house looked very much like other old houses, and having thin shoes on, they both strongly remonstrated (proteſtieren), but in vain (vergebens). Rogers got out (ausſteigen) himself, expecting them to do likewise (das Gleiche) but Sidney Smith leaned (lehnen) laughing out of the window, and exclaimed: "Oh, (Oho) now you see why Rogers doesn't mind (ſich ſcheuen vor) getting out: he has goloshes (Galoſche) on. But, my dear Rogers, lend each of us a golosh, we will then each stand upon one leg and admire the house as long as you please.

LITERATURE.

1. Give a summary of the contents of lessing's two principal critical works.

2. Characterize the poetry of the "Sturm und Drang" period.

2. Name the principal men of the Earlier Romantic School and state their leading notions.

THIRD YEAR HONOURS.

Examiner .... P. Toews, M.A.

I. Translate: Schiller, Wilhelm Tell, Act I. Scene IV.
Wo iſt ein name..... gewähren.

II. Translate:—Wieland, Oberon. I. canto, ſtanzas 31–35.

1. Distinguish between: er achtet es, and er achtet darauf.

2. Write a note on Lohn.

LITERATURE.

1. Characterize the poetry of Walther von der Vogelweide. Show that his verses are of considerable historical interest.

2. State briefly the plot of „Der arme Heinrich" and criticize the poem.

3. Name the principal fable writers of the 18th century.

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III. Translate : Frank Talfourd, who rejoiced (ſich erfreuen) in a stature (Höhe) of six feet and several inches, was playfully (im Scherze) challenged (auffordern) at the Savage Club one evening to raise his foot as high as (bis zu) the chandelier (Kronleuchter) that hung in the middle of the room. Lifting (in die Höhe werfen) his foot with rather too much vigour (etwas zu kräftig) he knocked down one of the glass globes (Glas kuppel), which fell to the ground and was smashed (zerſchellen) to atoms (into a thousand pieces). Frank rang the bell instantly, and asked the responding (erſcheinen) waiter for the amount (Betrag) of his bill (Rechnung). Pray, sir, what have you had ? Oh ! said Talfourd, pointing (hinzeigen) up to (auf) the chandelier, only a glass of that.

B.A. HONOURS.

Examiner..... .....P. Toews, M.A.

I Translate:—Lessing, Nathan der Weiſe, Act I, Scene.

Gewiß nicht.....to the end of the scene.

II. Translate:—Goethe, Faust, I. Oja, bis an die Sterne weit!..... .....ziemen.

Write notes an euch, Haupt-und Staa saction and pragmatiſchen Maximen.

III. Translate :— Goethe, Faust I. Berufe nicht die wohlbefannnte Schaar..... .....ergreifen

Schaar : Explain.

MIDDLE HIGH GERMAN.

IV. Translate:—Niebelungenlied 1. aventure Der Kunce bot es laszen .... dasz si komen in das lant.

LITERATURE.

1. In which of his works does Goethe make known his latest views of society and education ? State briefly his most important thoughts on those subjects.

2. Characterize Uhland's writings.

3. State the tendencies of the School called "young Germany."

COMPOSITION.

Write an essay on one of the following subjects :

The influence of politics on German literature at the beginning of the 19th century.

Klopstock. Jean Paul.

HEBREW.

ELEMENTARY COURSE.

MARCH 31st :—9 TO 12 A. M.

Examiner, REV. PROF. D. COUSSIRAT, B.A., B.D., OFFICIER [d'ACADÉMIE.

I. Translate : וַיְבָרֶךְ אֹתָם אֱלֹהִים וַיֹּאמֶר לָהֶם פְּרוּ וּרְבוּ וּמִלְאוּ אֶת־הָאָרֶץ וְכִבְשֻׁהָ וּרְדוּ בִּדְגַת הַיָּם וּבְעוֹף הַשָּׁמַיִם וּבְכָל־חַיָּה הָרֹמֶשֶׁת עַל־הָאָרֶץ.

a Explain the pointing of יברך as distinguished from the strong verb.

b Parse כבשה Point out the anomaly in the spelling.

c Parse הרמשת explaining the nature of the vowels.

II. Translate : בְּיוֹם הַשִּׁשִּׁי עָשָׂה אֶת־הַבְּהֵמָה וַיִּבְרָא אֶת־הָאָדָם בְּצַלְמוֹ.

a Parse the verbs ; *b* Parse the nouns. *c* Attach all the suffixes to סוּס singular and plural. (*d*) State the use of the ו consecutive.

III. Point and translate :—וירא אלהים את כל אשר עשה והנה טוב מאד ויהי ערב ויהי בקר יום הששי.

IV. Translate—וַיְכַל אֱלֹהִים בַּיּוֹם הַשְּׁבִיעִי מְלַאכְתּוֹ אֲשֶׁר עָשָׂה וַיִּשְׁבֹּת בַּיּוֹם הַשְּׁבִיעִי מִכָּל־מְלַאכְתּוֹ אֲשֶׁר עָשָׂה.

(*a*) Write the kal Imperfect of שָׁבַת.

(*b*) Give a tabular view of the Niphal of שָׁמַר.

V. Translate—וַיִּקַּח יהוה אֹתוֹ וַיַּנִּחֵהוּ בְּגַן־עֵדֶן לְעָבְדָהּ וּלְשָׁמְרָהּ.

(*a*) Parse יִקַּח, explaining the dagesh in ק.

(*b*) Parse וּלְשָׁמְרָהּ. (*c*) Write the Kal Infin. construct of that verb.

VI. Render into Hebrew: (1) God will sanctify the seventh day. (2) This is the day in which God rested. (3) In the garden which God planted was fruit. (4) Thou shalt divide between the good and between the evil. (5) This woman was taken from this man.

VII. Reading and Oral examination.

INTERMEDIATE COURSE.

MARCH 31st:— 9 TO 12 A. M.

Examiner, REV. PROF. D. COUSSIRAT, B.A., B.D., OFFICIER [d'ACADEMIE.

I. Translate Genesis III, 22-24 inclusive.

(*a*) Parse וַיְגָרֶשׁ, וַיִּשְׁכֵּן, לָדַעַת. Explain the difference between those forms and the corresponding ones in the strong verb.

(*b*) Write a paradigm of Niphal perfect of יָדַע.

(*c*) Render into Hebrew: (1) Twenty cities. (2) Three sons. (3) He is our God. (4) I shall put forth my hand and take the fruit and eat.

(*d*) Point and translate the following: גרש אלהים מעדן את האיש ואת אשתו. לא טוב היות האדם לבדו.

II. Translate Genesis VI, 17-19 inclusive.

(*a*) Parse the weak verbs in verse 17.

(*b*) Write a paradigm of the Hiphil perfect of קוּם.

(*c*) Parse the irregular nouns in verse 18.

(*d*) Render into Hebrew: (1) I am about to rain upon the earth. (2) Will he keep the covenant which he established with them?

(*e*) Remark on (1) וְאֲנִי מֵבִיא. (2) אֶת־הַמַּבּוּל מַיִם.

III. Translate Exodus III, 11-13 inclusive.

(*a*) Write a note on the article used with אֱלֹהִים.

(*b*) Parse שְׁלַחְתִּיךְ explaining the — under שׁ.

(*c*) Write out the Niphal Imperative of אָמַר.

(*d*) What is the rendering of אֶהְיֶה אֲשֶׁר אֶהְיֶה in the Septuagint and in the Vulgate ?

(*e*) Write a note on פָּקֹד פָּקַדְתִּי.

(*f*) Give various renderings of בְּיָד חֲזָקָה.

IV. Translate Numbers XXIII, 7-9 inclusive.

(*a*) What is the proper meaning of נֶפֶשׁ in verse 10 ?

(*b*) Attach a grave and a light suffix to the singular and the plural of מֶלֶךְ.

(*c*) Parse קָבְהּ in verse 8.

(*d*) State the chief characteristics of ל"ה verbs.

V. (*a*) Point and explain the following Masoretic notes :
הפטרה, פרשה, פרק, סדר, דספר, זע"א, נ"א.

(*a*) Reading and oral examination.

B. A. ORDINARY EXAMINATION.

MARCH 31ST :— 9 TO 12 A. M.

Examiner, REV. PROF. D. COUSSIRAT, B.A., B.D., OFFICIER d'ACADEMIE.

I. Translate Isaiah LVI, 3, 4, 5.

(*a*) What is the force of יָד and שֵׁם in verse 5 ?

(*b*) State the peculiarities of Verb נָתַן.

(*c*) Give various renderings of verse 8.

(*d*) Point and translate the Masoretic notes of Isaiah LVIII.

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(*e*) What is the meaning of שֵׁכַר? Compare that word with

תִּירוֹשׁ, חֶמֶר, מֶסֶךְ, יַיִן.

(*f*) Translate into Hebrew: It is not good that the righteous may die, without any one laying it to heart.

II. Translate Psalm XVIII, 8-11 inclusive.

(*a*) Parse יִשַּׁע, וַיֵּרַד, וַיֵּט.

(*b*) Write the absolute state singular of Nouns in the Construct state in verses 8 and 9.

(*c*) Parse יִדְשְׁנֶהָ (ps. 20, 4), and give various renderings of it.

(*d*) Render into Hebrew: He is our God; his law is perfect, sure, converting the soul, rejoicing the heart; it will endure forever. In keeping it there is great reward.

III. Translate Lamentations I, 5-7 inclusive.

(*a*) Parse הוֹגָה, שָׁלוּ.

(*b*) What is the name given to Lamentations by the Rabbies?

(*c*) Mention some of the pecularities of the style of that Book?

IV. Translate Lamentations III, 22-26.

(a) Give various renderings of verse 22.

(*b*) Parse דּוֹמָם, אוֹחִיל.

(*c*) Give a short paradigm of the Perfect Niphal and Hiphil of יָשַׁב.

(*d*) Translate into Hebrew: The prophet is seventy-five years old, and he has seen the destruction of Jerusalem by the King of Assyria.

V. (*a*) State the character and chief uses of the Infinitive construct.

(*b*) Describe the form and the general contents of the Talmud. Name four of its best known treatises.

(*c*) Reading. Oral examination.

NATURAL SCIENCES.

FIRST YEAR.

CHEMISTRY.

TUESDAY, APRIL 12TH:—MORNING, 9 TO 12.

Examiners, ... { B. J. HARRINGTON, B.A., PH.D. / NEVIL N. EVANS, B.A.SC.

1. What elements constitute the Nitrogen Family? On what grounds are they grouped together?

2. What are (*a*) acid salts, (*b*) basic salts? Give examples.

3. How is the valence of an element determined? Give the valence of Phosphorus, Silicon, Zinc, Silver, Aluminum, Sulphur.

4. How would you distinguish salts of the following metals:—Barium, Strontium, Calcium, Magnesium?

5. Give the history of the discovery of Scandium, Gallium, Germanium.

6. Give the composition of the ores of Iron, and explain their reduction in the blast furnace.

7. In the Ammonia Soda process, how much acid Ammonium Carbonate would be required to make one ton of normal Sodium Carbonate?

8. State what you know with regard to the sources from which Potassium Carbonate is derived.

9. Sketch briefly the Hall process for the manufacture of Aluminium, and give the properties of the metal.

10. Give the formula of each of the following:—Common Alum, Gypsum, norma Bismuth Nitrate, Orthophosphoric Acid, Meta-Silicic Acid.

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INTERMEDIATE EXAMINATION.

BOTANY.

THURSDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiner,..... D. P. FENHALLOW, B.Sc.

1. Explain the characteristics of and classify a raceme, cyme, spike, umbel, corymb, false raceme.

2. Draw figures giving plan of flower of the types $\frac{3}{3}$ and $\frac{5}{5}$. Explain fully the normal relationship of the various parts, and show how the type may be modified by suppression or by multiplication.

3. Give a concise statement of the law relating to close and cross fertilization, and give proof.

4. Show what influence insects and wind exert in the fertilization of plants, and how performed.

5. Give a concise explanation of the structure of a grain of wheat and of bean, and show homologous structures in the ovule.

6. Explain the nature and cause of polyembryony.

7. Give a concise statement of the leading features of the Linnæan system of classification.

8. Outline the Natural System of classification as now in use, with examples of each division made.

9. Outline the life history of a Gymnosperm.

10. Describe fully and classify the specimen given

THIRD YEAR AND SECOND YEAR APPLIED SCIENCE.

ZOOLOGY.

TUESDAY, APRIL 12TH:—2 TO 5 P.M.

Examiner,..... J. W. DAWSON, LL.D., F.R.S.

1. Briefly compare the type structures of the *Brachiopoda* and the *Lamellibranchiata*.

2. Describe the macroscopic structures, with their functions, of a typical Cephalopod, and name the homologous parts with their functional differences in a typical Gastropod.

3. Describe the structure and life history of any one member of the *Cestoda or* the *Trematoda.*

4. Describe the structures of a typical Crustacean of the sub-class *Malacostraca.*

5. State clearly the distinctive characters of *Insecta*, *Myriapoda* and *Arachnida*, with a typical example of each.

6. What are the distinctive characters of the classes *Pisces*, *Amphibia*, and *Reptilia.*

7. Characterize the class *Mammalia*, and state the distinctions of its leading sub-divisions, with examples.

8. Describe and illustrate by examples any class of the animal kingdom not referred to in the previous questions.

9. Characterize, refer to their places in the system and illustrate by Canadian examples any four of the following groups :—*Pteropoda, Ungulata, Trilobita, Orthoceratidæ, Errantia, Neuroptera, Cheiroptera, Tunicata, Grallatores, Ganoidea.*

10. Describe, and refer to their provinces and classes, the specimens exhibited.

B. A. ORDINARY EXAMINATION.

AND THIRD YEAR APPLIED SCIENCE.

GEOLOGY.

MONDAY, APRIL 11TH :—MORNING, 9 TO 12 AND 2 P.M.

Examiners, ... { J. W. DAWSON, LL.D., F.R.S.
F. D. ADAMS, B.A. Sc.

1. Into what great groups may the rocks constituting the earth's crust be divided with reference to their origin. State the origin and general characteristics of the several groups, giving examples.

2. Describe briefly a typical volcano, illustrating your descriptions by diagrams.

3 What formations occur at Niagara Falls, show by means of a diagram their relations, and explain the peculiar character of the erosion taking place there.

4. Explain the meaning of the following terms used in describing mineral veins. Foot-wall, Country-rock, Gangue, Horse.

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5. Explain the structure of the Middle Laurentian or Grenville Series, and the conditions of the earth at that period.

6. Tabulate the Lower Paleozoic of the neighborhood of Montreal, and describe one of its formations with some characteristic fossils.

7. Describe the Erian or Devonian of Canada, and state how it is represented in Great Britain.

8. Describe the subdivisions of the Carboniferous in Nova Scotia, or of the Tertiary or Cainozoic in Western Europe.

9. Give some account of the rocks and fossils of the Cretaceous and Laramie formations as represented in the Western Territories of Canada.

10. State the subdivisions of the Pleistocene in Canada, and mention characteristic fossils.

11. Either of the following :—

a. State the zoological or botanical and geological relations of *Favosites*, *Lepidodendron*, *Calamites*, *Productus*, *Dadoxylon*, *Ammonites*, *Psilophyton*, *Paradoxides*, *Palæoniscus*, *Belemnites*, *Palæotherium*, *Mastodon*, *Pliosaurus*.

b. Explain the Physical Geography of the American Continental Plateau, in any portion of the Paleozoic or Mesozoic Periods.

2 o'clock p.m.

12. Name the fossils exhibited, and state the geological formations to which they belong. Name and describe the rock specimens.

ADVANCED BOTANY.

FOURTH YEAR.

FRIDAY, APRIL 22ND :—MORNING, 9 TO 12.

Examiner,.....D. P. PENHALLOW, B. Sc.

1. Compare Polytrichum and Marchantia as to (*a*) structure of the asexual phase, and (*b*) production of the inflorescence.

2. Follow out the life history of any heterosporous Pteridophyte and show what position it should occupy in relation to a homosporous Pteridopyte.

3. Describe the structure of the stem in Lycopodium and show how it differs from Selaginella.

4. Describe the course of development in the sexual phase of growth of Pteris or Asplenium.

5. Compare the structure of the stem in any fern with that of Equisetum.

6. Compare the stomata of the liverworts and ferns, also with equisetum, and show to what extent these organs are developed in Bryophytes as a whole.

7. Explain the structure and mode of reproduction of any lichen, and show their systematic position.

8. Explain the structure and mode of reproduction in *Fucus furcatus*. Compare with *Laminaria* or *Saccorhiza*.

9. Explain the structure and mode of reproduction in *Morchella esculenta*.

10. Point out what plants and what tissues are represented by the specimens given.

THIRD YEAR HONOURS IN NATURAL SCIENCE, AND THIRD YEAR IN APPLIED SCIENCE (*Departments of Chemistry and Mining*)

MINERALOGY.

WEDNESDAY, APRIL 20TH:—MORNING, 9 TO 12.

Examiners,..... .... { SIR J. W. DAWSON, LL.D., F.R.S. / B. J. HARRINGTON, B.A., PH.D.

1. Distinguish between principal and secondary planes and axes of symmetry. How are the symmetry planes distributed in the Tetragonal and Hexagonal systems?

2. What are the parameters of a plane? What is the distinction between open and closed forms?

3. State and explain the law of simple mathematical ratio.

4. Explain the different twinning laws observable in Orthoclase. Distinguish also between polysynthetic and cyclic twinning.

5. What are pseudomorphs, and how are they produced?

6. State what you know with regard to the Triclinic system of crystallography and the notation of the faces.

7. Why should a mineral with high refractive index be more brilliant than one whose index of refraction is low?

8. Give the general characters of the Scapolites, and describe one member of the group.

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9. Give the name, crystalline form, composition and quantivalent ratios of the different Feldspars.

10. Describe Nephiline, Sodalite and Vesuvianite.

11. Describe carefully each of the minerals and models exhibited.

B.A. HONOURS IN NATURAL SCIENCE AND B.A.Sc.

(*Chemistry and Mining Courses.*)

(FIRST PAPER) MINERALOGY.

MONDAY, DECEMBER 14TH:—MORNING, 9 to 12.

Examiners,..... { J. W. DAWSON, LL D, F.R.S.
B. J. HARRINGTON, B.A., PH.D.

1. Explain carefully the notation of crystal faces in the monoclinic system.

2. A mineral gave on analysis the following percentage composition Deduce its formula and give its name and crystalline form:—Silica 55.95 Alumina 23.26, Lime 0.32, Potash 20.04, Soda 0.43.

3. State what you know with regard to the directions of cleavage in the following species:—Diamond, Ripidolite, Topaz, Orthoclase, Gypsum, Sphalerite.

4. Give the general characters of the Micas and the distinctive characters of the principal species.

5. What are the methods of twinning in Pyroxene, Albite, Zircon, Staurolite and Magnetite?

6. Describe briefly each of the following species:—Pyrrhotite, Niccolite, Arsenopyrite, Cerargyrite, Cerussite.

7. How would you distinguish Thomsonite from Natrolite, Stilbite from Heulandite, Enstatite from Hypersthene, Beryl from Tourmaline, Göthite from Limonite?

8. Give the blowpipe characters of Magnesite, Pyromorphite, Rutile' Pyrargyrite, and Cuprite.

9. Give the composition of each of the following minerals:—Acanthite, Bournonite, Troilite, Tennanite, Martite, Mimetite.

10. State what you know with regard to the mode of occurrence in nature of Molybdenite, Corundum, Sodalite, Labradorite and Andalusite.

11. Distinguish between holo-hemihedral and hemi-holohedral forms, also between hemihedrism and hemimorphism.

SPECIMENS :—Afternoon, 2 to 4.

Name the minerals exhibited and give their characters as seen in the specimens.

B.A. HONOUR EXAMINATIONS IN GEOLOGY AND NATURAL HISTORY.

(SECOND PAPER) PRACTICAL GEOLOGY.

WEDNESDAY, MARCH 30TH :—AFTERNOON, 2 TO 5.

Examiners,..... .... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.
FRANK D. ADAMS, M. AP. SC.

1. Give Von Cotta's scheme for the classification of mineral deposits.

2. What are Residual Deposits ? Give an example.

3. What considerations must be taken into account in deciding whether an ore deposit can be profitably worked ? What do you understand by the terms "native" and "mineralized," as applied to metals ?

4. The Strata underlying a certain district are traversed by a number of mineral veins. How is it possible to ascertain whether one or several sets are present ? If several sets are present how can we ascertain their relative ages ? How can we in some cases even ascertain the actual geological age of such veins ?

5. Show by means of diagrams how by faulting, in an area underlain by gently inclined strata, much coal may be exposed at the surface while comparatively little occurs below.

6. Explain and illustrate by diagrams the influence of uneven surface erosion on the course of the outcrop of beds in a series of horizontal strata.

7. Give briefly a general classification of Mountain Ranges with their distinctive characters, and an example of each class.

8. Explain the construction of a detailed horizontal section across any line of country from one point to another.

9. In the geological section submitted (No. 7)—

(*a*) How is the Silurian related to the Pre-Cambrian in the several parts of the section ?

(*b*) How does the crystalline limestone occur ?

(*c*) Has the Silurian been deposited on the Granite or has the latter been erupted through it ?

(*d*) What can you ascertain concerning the age of the Diorite ?

10. A line AB is drawn across a portion of the Geological Map submitted. Construct a horizontal section along this line, and state how the Silurian and Devonian are related to one another.

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B. A. HONOURS.

(THIRD PAPER) CANADIAN GEOLOGY.

FRIDAY, APRIL 8TH :—MORNING, 9 TO 1.

Examiners,..... .... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.
FRANK D. ADAMS, M. AP. SC.

1. What do you understand by the Archean Protaxes of the North American Continent? Draw a sketch map showing their position as now exposed.

2. Describe briefly the stratigraphical position and petrogaphical character of the Grenville series. Enumerate the principal minerals of economic importance which occur in it, and state their mode of occurrence.

3. State the sub-divisions and distribution of the Cambro-Silurian rocks in the Central Plateau Region of Canada. Give the characteristic fossils of any one of the subdivisions.

4. Describe the two-fold development of the Devonian in Canada, and compare it with that of the Continent of Europe. Describe the character and distribution of the Devonian in the North West Territories, and state what minerals of economic value it affords.

5. Two great developments of limestone in Canada hold the following fossils respectively :—

a. Michelina convexa, Aulopora cornuta, Fistulipora Canadensis, Syrengopora, Phillipsastræa, Phacops bufo, Streptorhyncus, Pentamerus aratus.

b. Productus cora Athyris' sublitata Terebratula sacculus, Fenestella Lyelli, Macrodon Hardingi Conularia planicostata.

What is the stratigraphical position of each of these limestones ?

6. The character, age and distribution of the Laramie formation.

7. What is the stratigraphical position of the coal-bearing strata of British Columbia? What sort of coal do they contain? Why have these deposits an especial value ?

8. What geological formations are found in the Queen Charlotte Islands.

9. Draw a line of section from the Laurentian axis across Ontario to the west end of Lake Erie.

10. Where are the principal gold deposits of Canada? Describe the occurrence of the gold in each of the districts, and state the age of the deposits.

B.A. HONOURS.

(FOURTH PAPER) PALÆONTOLOGY.

WEDNESDAY, APRIL 20TH:—9 A.M. TO 12, AND 2 TO 5 P.M.

Examiners,..... { J. W. DAWSON, LL.D., F.R.S.
B. J. HARRINGTON, B.A., PH.D.
F. D. ADAMS, M.A. SC.

1. Indicate the relations of the leading genera of *Trilobites* and *Merostomata* to geological time.

2. State in tabular form the characters of the orders of *Cephalopoda*, and their range in geological time.

3. What are the characteristic differences of the families of *Brachiopoda* and their range in time? Figure and name the parts of a typical Brachiopod.

4. State your conclusions as to the relations of the several groups of *Tabulata* and *Rugosa* to modern corals.

5. Describe the structures of *Phyllograptus* or of *Nummulites*, and state their zoological affinities and geological range.

6. Notice the parts which would be most important in describing or determining a Crinoid or a Silicious Sponge, and illustrate by figures.

7. A formation contains species of *Favosites*, *Dictyonema*, *Calymene*, *Pentamerus*, *Stricklandinia*, *Palaeaster*, *Homalonotus*. State the zoological relations of these genera and the probable age of the formation.

8. To what classes and orders do the following genera belong and in what formations do they occur:—*Cephalaspis*, *Hylonomus*, *Beryx*, *Labyrinthodon*, *Mosasaurus*.

9. Describe and figure, *Endoceras*, *Protospongia*, *Glyptocystites*, and *Belemnites*; or *Lepidodendron*, *Calamites* and *Alethopteris*.

10. Describe fully and state the classification of any group of fossils you may have specially studied, with its geological relations.

EXAMINATION IN SPECIMENS (2 P.M.).

Refer the specimens exhibited to their geological formations, and to their places in the zoological classification.

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FACULTY OF APPLIED SCIENCE.

FIRST YEAR.

MATHEMATICS, I.

TUESDAY, DECEMBER 15TH:—MORNING, 9 TO 12.30.

Examiner,.....G. H. CHANDLER, M.A.

1. If a straight line be bisected and also cut unequally, the sum of the squares on the unequal parts shall be twice the sum of the squares on half the line and the line between the points of section.

2. Every equilateral figure inscribed in a circle is also equiangular.

3. Given a regular figure inscribed in a circle, how may (1) the regular figure of the same number of sides be described about the circle, (2) a circle be inscribed in the figure, (3) a circle be described about the figure. (Explanation of method without proof.)

4. Explain duplicate ratio, and show that the duplicate ratio of A to B is equal to the ratio of A^2 to B^2. Define similar figures. How do you find the ratio of the areas of similar figures?

5. If the vertical angle of a triangle be bisected by a straight line which meets the base, the segments of the base shall have the same ratio as the sides. Also, the rectangle contained by the sides shall exceed the rectangle contained by the segments of the base by the square on the bisector.

6. What is meant by the radical axis of two circles? How is it found when the circles do not intersect?

7. Find the locus of the middle points of chords of a circle which all pass through one point.

8. Show by the method of transversals that in a triangle ABC the lines which bisect A and B internally and C externally meet the opposite sides in points which are collinear.

9. If two straight lines are cut by parallel planes they are cut proportionally.

10. How many regular solids can there be? Give your reasons and name the solids.

11. Show that the volume of a sphere $= \frac{4}{3}\pi r^3$, and that the volume of a frustum of a right circular cone $= \frac{1}{3}\pi h\,(R^2 + Rr + r^2)$.

12. How many kinds of conic sections are there, and how are they formed? Draw a figure representing a cone cut so as to give an ellipses and prove that the sum of the focal distances of all points in the curve if constant.

13. The subtangent at any point of a parabola is equal to twice the abscissa.

14. The area of any segment of a parabola cut off by a chord is two-thirds of the area of the triangle formed by the chord and the tangents at its extremities. Prove also that it is two-thirds of the parallelogram which has for opposite sides the chord and the parallel tangent.

FIRST YEAR.

MATHEMATICS, II.

WEDNESDAY, APRIL 6TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Show that

$$(x + a)(x + 2a)(x + 3a)(x + 4a) + a^4$$

is a perfect square.

2. Find the factors of

(1) $3x^2y^2 + 26axy + 35a^2$ (two factors)

(2) $4(x - y)^3 - (x - y)$ (three factors)

(3) $(y - z)^3 + (z - x)^3 + (x - y)^3$ (four factors)

3. Divide $x^{\frac{3}{2}} - xy^{\frac{1}{2}} + x^{\frac{1}{2}}y - y^{\frac{3}{2}}$ by $x^{\frac{1}{2}} - y^{\frac{1}{2}}$.

4. Show that

$$\frac{x}{x^{\frac{1}{3}} - 1} - \frac{x^{\frac{2}{3}}}{x^{\frac{1}{3}} + 1} - \frac{1}{x^{\frac{1}{3}} - 1} + \frac{1}{x^{\frac{1}{3}} + 1} = x^{\frac{2}{3}} + 2.$$

5. Write down the general expression for the Binomial Theorem.

Show that $\frac{1}{\sqrt[3]{(1 - x)^2}} = 1 + \frac{2}{3}x$ nearly, x being a small quantity.

Show that $\sqrt[5]{31} = 2 - \frac{1}{80}$ nearly.

6. Solve the equations:

(1) $\frac{(\cdot 3x - 2)(\cdot 3x - 1)}{\cdot 2x - 1} - \frac{1}{6}(\cdot 3x - 2) = \cdot 4x - 2,$

(2) $(x+a)^3 + (x+b)^3 + (x+c)^3 = 3(x+a)(x+b)(x+c)$,

(3) $\begin{cases} x^3 + y^3 = 126 \\ x^2 - xy + y^2 = 21. \end{cases}$

7. Define a geometrical progression. Given the first term, the common ratio, and the number of terms, deduce the formula for the sum. How do you get the limit of the sum as the number of terms approaches infinity?

8. Construct to scale two angles whose cosines are each $\frac{2}{3}$. Find the sines of these angles.

9. Given $\sin\theta = \frac{2}{3}$, find $\sin 2\theta$ and $\cos 2\theta$.

10. Show that $\tan^{-1}x + \tan^{-1}\left(\frac{1-x}{1+x}\right) = \frac{\pi}{4}$.

11. Solve the equations:—

(1) $3\tan^2 x - 4\sin^2 x - 1$,

(2) $\tan^{-1}x^2 + \tan^{-1}x = \tan^{-1}1\frac{1}{3}$.

FIRST YEAR.

MATHEMATICS, III.

SPTURDAY, APRIL 8TH:—MORNING, 9 TO 12.

Examiner,..... .....G. H. CHANDLER, M.A.

1. In any plane triangle

(1) $\cos\frac{A}{2} = \sqrt{\frac{s(s-a)}{bc}}$,

(2) $\sin A + \sin B + \sin C = 4\cos\frac{1}{2}A\cos\frac{1}{2}B\cos\frac{1}{2}C$.

(3) radius of inscribed circle = area $\div s$.

2. In any right-angle spherical triangle:

(1) $\tan A = \frac{\tan a}{\sin b}$,

(2) $\cos c = \cos a \cos b$.

3. In any spherical triangle

$$\frac{\sin A}{\sin a} = \frac{\sin B}{\sin b} = \frac{\sin C}{\sin c}.$$

4. In the plane triangles in which

(1) $a = 234.6$, $b = 306.2$, $c = 437.4$,

(2) $a = 500.6$, $b = 356.8$, $C = 108° 38'$,

show that

(1) $A = 30° 50'$, $B = 41° 58'$, $C = 107° 12'$,

(2) $A = 42° 33'$, $B = 28° 49'$, $c = 701.5$.

5. In the spherical triangles in which

(1) $A = 129° 20'$, $c = 116° 30'$, $C = 90°$,

(2) $a = 124° 7'$, $b = 88° 12'$, $C = 50° 2'$,

show that

(1) $a = 136° 12'$, $b = 51° 49'$, $B = 61° 26'$,

(2) $A = 132° 18'$, $B = 63° 15'$, $c = 59° 4'$.

6. Find the area of 4 (2) and 5 (2), the radius in the latter case being 10 inches.

7. Of 4 (2) find the radii of the inscribed and circumscribed circles.

FIRST YEAR.

MATHEMATICS, IV.

SATURDAY, APRIL 16TH :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Define speed, velocity, acceleration. How are velocities compounded? Find graphically the resultant of velocities 12 and 20 making with each other an angle 105°; also the angle which the resultant makes with the larger component.

2. From a car going east at the rate of 30 miles per hour, an object is thrown horizontally toward the south at the rate of 30 feet per second, and falls 9 feet; with what velocity does it strike the ground?

3. Define momentum, stress, work, energy. Distinguish between the two kinds of energy.

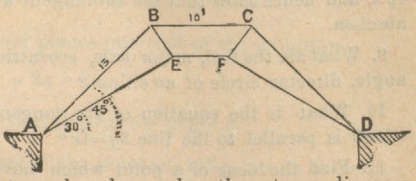
4. A train of 200,000 lbs. mass, exposed to a resistance of 8 pounds a ton, is drawn with constant speed by an engine of 64 H.P. Find he speed, assuming it to be as great as possible.

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5. Explain stable, unstable, and neutral equilibrium; moment of a force; centre of inertia.

6. Find the force which acting up an inclined plane will keep a weight of 10 lbs. in equilibrium, it being given that the force, the pressure on the plane and the weight are in arithmetical progression.

7. A frame is made of rods pinned together as in the diagram: $AB = AE = DF = DC = 15$ feet and $BC = 10$ ft.; AB and CD make angles of 45°, AE and DF angles of 30°, with the horizon; the load is 25 lbs. at each of the points B and C. Draw to scale; draw also the stress diagram and determine the stresses.



8. The sides of a plane triangle are

$$a = 264.026,\ b = 509.307,\ c = 400.09.$$

find the angles and verify that $A + B + C - 180° = 0$.

9. The sides of a spherical triangle are

$$a = 100°,\ b = 50°,\ c = 60°,$$

find the angles, showing that $A + B + C - 180° = 25°\ 16'\ 57''$.

SECOND YEAR.

MATHEMATICS, I.

FRIDAY, DEC. 18TH:—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. Construct the curves $y = x^3$, $xy = 1$.

2. Find the points of intersection of the curves $x^2 + y^2 = 100$, and $y^2 - \frac{3}{2}x$.

3. Find the equation of a straight line which makes intercepts a and b on the axes.

4. Find the equation of the perpendicular erected at the middle point of the line joining (5,2) to the intersection of $x - 2y = 11$ and $9x - 2y = 59$.

5. What are the equations of the tangents to the circle $x^2 + y^2 - 14x - 4y = 5$ at the points where the abscissa is 10.

6. What must be the value of k in order that the line $3x+4y=k$ may touch the circle $x^2+y^2=10x$?

7. Transform the equation $x^2-4xy+y^2-2x-4y+1=0$ to parallel axes through the point $(-\frac{5}{3},-\frac{1}{3})$, then turn the axes through $45°$, thus getting $x^2-3y^2=5\frac{1}{3}$ for the transformed equation.

8. Find the equation of the tangent at any point on the parabola $y^2=4px$, and hence show that the subtangent at any point is always twice the abscissa.

9. What are the foci, major axis, eccentricity, auxiliary circle, eccentric angle, director circle of an ellipse?

10. What is the equation of the tangent of the ellipse $3x^2+5y^2=15$ which is parallel to the line $3y=4x$?

11. Find the locus of a point which moves so that the sum of its distances from two given lines is constant.

12. The ends of a straight line A B move on two straight lines which are perpendicular to each other; show that the locus of any point in AB is an ellipse.

SECOND YEAR.

MATHEMATICS, II.

SATURDAY, APRIL 9TH :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1 Prove by the method of infinitesimals that the tangent at any point on an ellipse is equally inclined to the focal radii.

2. Show that

(1) $d\sqrt{\dfrac{a+x}{a-x}}=\dfrac{a\,dx}{(a-x)\sqrt{a^2-x^2}}$,

(2) $d\log\tan(\frac{1}{4}\pi+\frac{1}{2}\theta)=\sec\theta\,d\theta$,

(3) $dy/(1-y^2)=dx$, if $y=(e^x+e^{-x})/(e^x-e^{-x})$.

3. Also that

(1) $\displaystyle\int\frac{x^2\,dx}{a^3-x^3}=\frac{1}{3}\log\left(\frac{1}{a^3-x^3}\right)$,

(2) $\displaystyle\int\sin^2\theta\,d\theta=\frac{1}{2}(\theta-\frac{1}{2}\sin 2\theta)$,

(3) $\displaystyle\int\frac{x\,dx}{\sqrt{a^4-x^4}}=\frac{1}{2}\sin^{-1}\left(\frac{x^2}{a^2}\right)$.

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4. Define *node, cusp,* and *conjugate point.* What are the tangents at the origin of the curve

$$ay^3 - 3ax^2y = x^4 ?$$

5. Find the length of the normal and subnormal at the point (5, 4) on the curve $y^2 = 3x + 1$.

6. Find the asymptotes of the curve $x^4 = xy^3 + 3y^3$.

7. Calculate to three decimal places one root of the equation

$$x^3 - 2x = 2o.$$

8. If $y = ae^{nx} + be^{-nx}$, show that $d^2y/dx^2 - n^2y = 0$.

9. What are the co-ordinates of the point of inflexion on the curve of question 5 ?

10. What is meant by the circle of curvature ? Deduce a formula for the radius of curvature R at any point of a curve.

11. At any point of the curve $\left(\frac{x}{a}\right)^{\frac{1}{2}} + \left(\frac{y}{b}\right)^{\frac{1}{2}} = 1$, show that

$$R = 2(ax + by)^{\frac{3}{2}}/ab.$$

12. Prove that the least value of $ae^{nx} + be^{-nx}$ is $2\sqrt{ab}$.

SECOND YEAR.

MATHEMATICS, III.

SATURDAY, APRIL 16TH :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. A velocity 6 becomes one of 3 at an angle of 60° to its original direction. Find the change of velocity.

2. Give the Laws of Motion. What do you mean by mass, work, energy ? Enunciate the Law of Gravitation.

3. Find the H. P. of an engine which can raise 15000 gallons of water per hour from the bottom of a shaft 1100 feet deep.

4. From a square a portion is cut off by a line passing through the middle points of two adjacent sides. Show that the centre of gravity of the remainder is $\frac{1}{21}$ of the diagonal from the centre of gravity of he square.

5. What weight can be raised by a force of 10 pounds acting at the end of a 2 ft. lever to turn a vertical screw of $\frac{1}{2}$ in. pitch?

6. A piece of wood weighs 6 pounds, a block of lead weighing 17 pounds is attached to it, and the whole mass weighs 14 pounds in water. Find the specific gravity of the wood, that of lead being $11\frac{1}{3}$.

7. A barometer which has a little air in the upper part stands at 28 in. when it should record 30 in. If the space above the mercury contains 4 cubic inches, what would be the volume, at the atmospheric pressure, of the contained air?

8. Two unequal masses are connected by a string which passes over a pulley. Find the acceleration.

9. What is meant by thehodograph of a point's motion? By means of the hodograph find the force which must act towards the centre of a circle when a body moves in the circumference with uniform speed

10. Show that to give a train a speed of 20 miles per hour requires the same energy as to raise it vertically through a height of 13.3 ft.

11. An engine weighing 5 tons hauls a load of 10 tons at 8 miles per hour, the resistances being 20 pounds per ton. Show that the H. P. is $6\frac{2}{5}$.

12. What is meant by the centre of pressure on a plane area? If the area be a rectangle with on ⌓ side in the surface of the fluid, where is the centre of pressure?

THIRD AND FOURTH YEARS.

MATHEMATICS I.

TUESDAY, DECEMBER 15TH:—MORNING, 9 TO 12.30.

Examiner,.....G. H. CHANDLER, M.A.

1. Show that

(*a*) $d \sin^{-1}\left(\frac{1-x^2}{1+x^2}\right) = -\frac{2dx}{1+x^2}$,

(*b*) $d \log \tan x = \frac{2dx}{\sin 2x}$,

(*c*) $d(\tan^2 x - \log \sec^2 x) = 2 \tan^3 x \, dx$,

(*d*) $d\left(\frac{1-x}{\sqrt{1+x^2}}\right) = -\frac{(1+x)dx}{(1+x^2)^{\frac{3}{2}}}$.

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2. Show that

(*a*) $\int (\tan x + \cot x)^2 dx = \tan x - \cot x,$

(*b*) $\int \sin^3 x \, dx = -\cos x + \frac{1}{3}\cos^3 x,$

(*c*) $\int \frac{(3x+2)dx}{x(x+1)^3} = \frac{4x+3}{2(x+1)^2} + 2\log\left(\frac{x}{x+1}\right).$

3. Explain the method of integrating by parts, and show that

$$\int \sqrt{a^2 - x^2}\, dx = \tfrac{1}{2}a^2 \sin^{-1}\frac{x}{a} + \tfrac{1}{2}x\sqrt{a^2 - x^2}.$$

4. Show that $(\frac{2}{3}a\sqrt{3}, \frac{3}{2}a)$ is a point of inflexion on the curve $(x^2 + 4a^2)\, y = 8a^3$.

5. Find the area of this curve from $x = 0$ to $x = 2a$.

6. Find the moment of inertia of a circle about a diameter.

7. The altitude of the right cone of greatest volume which can be inscribed in a sphere of radius r is $\frac{4}{3}r$.

8. Find the equation of a circle having (5,3) for centre and $3x + 2y = 10$ for tangent.

9. Given the equation $3x^2 + 4xy + y^2 - 5x - 6y = 3$, transfer to parallel axes through $(\frac{7}{2}, -4)$, and show that the term $4xy$ will disappear if the axes are turned round through the angle $\frac{1}{2}\tan^{-1} 2$.

10. Find the vertex and latus rectum of the parabola

$$3x^2 + 2x + 3y + 1 = 0.$$

11. If any number of ellipses have the same major axis, tangents at points which have the same abscissas meet at one point on the major axis.

12. Show that the distance of a focus of a hyperbola from either asymptote is equal to half the conjugate axis.

THIRD YEAR.

MATHEMATICS, II.

SATURDAY, APRIL 16TH :—MORNING, 9 TO 12.

Examiner,.....G. H. CHANDLER, M.A.

1. What is meant by the hodograph of a point's motion? What is the hodograph of a projectile *in vacuo*? By means of the hodograph, find the force which must act towards the centre when a particle describes a circle with uniform speed.

2. Give a brief explanation of (1) stress, (2) pound, (3) poundal, (4) dyne, (5) work, (6) energy, (7) erg, (8) joule, (9) kilogrammetre, (10) potential, (11) centrode.

3. Two unequal masses m_1 and m_2 are connected by a string which passes over a pulley. Determine the motion.

4. Why is the range of a projectile for an elevation $45° + \theta$ the same as when the elevation is $45° - \theta$?

5. Show that the horizontal pressure on the rails caused by a locomotive of w lbs. moving on a level track at the rate of v miles per hour in a curve of r feet radius is $\cdot 067\ w\ v^2/r$ pounds.

6. Show that a uniform circular motion is equivalent to two simultaneous simple harmonic motions of equal amplitude and period but differing $\frac{1}{4}$ in phase.

7. Find the attraction of a uniform thin circular disc of radius a, thickness h, and density δ, on a particle of unit mass situated at a distance b from the disc and on a line through its centre and perpendicular to its plane.

8. Explain coefficient of friction, angle of repose, friction circle. Find the ratio of applied force to resistance in the case of the screw when friction is taken into account.

9. A train of 100 tons is hauled by an engine of 150 H. P. The resistance is 14 pounds per ton; what is the greatest speed the engine can attain

10. A rod of length l is suspended at one end and caused to vibrate; find the length of the simple equivalent pendulum.

11. Explain the meaning of centre of pressure of a plane area. How is it obtained? For example, a vertical circle of radius r, whose centre is at a depth d.

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12. Investigate the formula for finding the work done in compressing a gas.

Show that the work necessary to compress a cubic foot of ordinary air to half its volume is 1465 foot pounds, approximately.

SECOND YEAR.

MECHANISM.

MONDAY, APRIL 4TH:—MORNING, 9 TO 12.

Examiner, ... J. T. NICOLSON, B.Sc.

1. Describe Stephenson's, Gooch's & Allan's link motions, and state the effect of linking up upon the lead.

2. Make a careful sketch of a ratchet brace for drilling.

3. Sketch and describe the arrangement for lowering in a Weston Triplex Block.

4. A pinion of 12 teeth and an internal spur wheel of 48 teeth are concentric. An arm carries a spur wheel of 18 teeth gearing into both. If the internal spur wheel be dead, how many turns will the arm make for 10 of the pinion?

5. Describe the Crosby indicator.

6. Sketch the tool rest and hand feed parts of a compound slide rest.

7. In a back geared lathe-headstock the largest and smallest cone pulleys are $16\frac{1}{2}''$ and $4\frac{5}{8}''$. The back gear wheels have 20 and 60 teeth. Find the greatest and least surface speed of $3''$ work in the lathe if the countershaft runs 40 per minute.

8. Show that a crossed belt is equally tight on any pair of two exactly similar cone pulleys arranged as usual.

9. Two shafts 5 feet apart are to run oppositely at 250 and 150. Give diameter of pitch circles of spur wheels to connect them. With belt connection and one pulley $9''$ dia. what must be the size of the other?

10. Show that, when two cranks upon fixed centres are connected by a straight link, their angular velocities are to one another inversely as the segments into which the link divides the line of centres.

11. Define "slider crank chain"; and name the mechanisms produced by fixing (*a*) the frame, (*b*) the connecting rod, and (*c*) the crank.

12. Draw a curve of piston velocity at successive cranks angles of 10° for an engine with connecting rod 4 cranks long.

SECOND AND THIRD YEAR AND B.A. Sc. EXAMINATIONS.

ESSAY.

SATURDAY, APRIL 2ND, 1892 :—MORNING, 9 to 12.

Examiners,..... ..... { B. J. HARRINGTON, PH.D., F.R.S.C.
HENRY T. BOVEY, M.A , F.R.S.C., M.INST.C.E.
C. H. MCLEOD, MA.E., M.CAN.SOC.L.E.
J. T. NICOLSON, B.SC., M.CAN.SOC.L.E.

FOURTH YEAR.

1. Flow of Water in open Channels.

2. Retaining Walls.

3. On the sources of Error in Volumetric and Gravimeric Analysis, and the means employed in eliminating them.

4. On Electrolytic methods of Analysis.

5. Manufacture of Pig Iron.

6. Roasting of Copper Ores.

7. Marine Engine Design.

8. Base Measurements.

THIRD YEAR.

1. Strength of Columns.

2. On he General Characteristics of the Base-forming Elements.

3. On the relation of Chemistry to Physics.

4. Siffness of Ropes.

5. (*a*) Ventilation of Coal Mines.
(*b*) Quarrying Rock for Building Purposes.

6. Determination of the Meridian.

SECOND YEAR.

1. On the General Characteristics of the Base-forming elements.

2. On the relation of Chemistry to Physics.

3. Weston Triplex Pulley Block.

4. (*a*) The Qualitative Analysis of Minerals.
(*b*) On the relation of Chemistry to Goology.

5. Plane Table Surveying.

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THIRD YEAR.

APPLIED MECHANICS (*Honours*).

TUESDAY, APRIL 12TH :—MORNING, 9 to 12.

Examiner, ...HENRY T. BOVEY, M.A., F.R.S.C.

1. Deduce the equations :—

$$\frac{d^2 M}{dx^2} = \frac{d S}{dx} = - w = \mp EI \frac{d^4 y}{dx^4}$$

Apply these equations to determine the *max. B.M* in a beam resting at one end upon a support, and absolutely fixed at the other, the distance between the supports being l ft. and the load upon the beam of an intensity varying uniformly from *nil* at the fixed end to $c.l$ at the other.

2. Find the max. *deflection* and the *work done* in bending the beam of the preceding question.

3. Shew that the strengths of a beam of an isosceles triangular section and of the strongest rectangular beam that can be cut out of the same are in the ratio of 27 to 16.

4. A spring of length l, triangular in plan, and of uniform depth, is *fixed* at one end and loaded at the other with a weight W. Find the max. deflection and the work done.

5. Enunciate and prove the Theorem of Three Moments, and deduce the condition due to the fixture of an end support.

6. A girder of two spans, viz., $AB = 20$ ft., and $BC = 40$ ft., is *fixed* at the end A, is continuous over the support B, and rests upon the support C; A, B and C being in the same horizontal plane.

The load upon AB is 1,000 lbs. per lineal ft., and upon BC 500 lbs. per lineal ft. Draw diagrams of SF and BM.

7. Determine the reactions in the previous question when B is lowered 2 inches.

THIRD YEAR AND B.A. Sc. EXAMINATIONS.

APPLIED MECHANICS (*Paper I*).

MONDAY, APRIL 4TH :—MORNING, 9 to 12.

Examiner, ... HENRY T. BOVEY, M.A., M. INST. C.E., F.R.S.C.

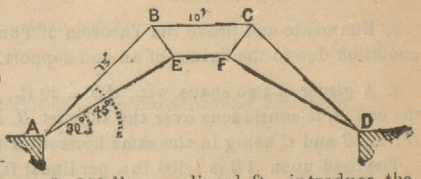
1. A number of weights are concentrated at different points in the length of a horizontal beam supported at the two ends. Shew that a line drawn through a pole parallel to the closing line of the funicular polygon divides the line of loads into the segments equal to the reactions at the two ends of the beam.

If the first and last sides of the funicular polygon pass through two *fixed* points on the closing line, show that the locus of the poles is a straight line parallel to the closing line.

2. Two wheels spaced $7\frac{1}{2}$ ft. apart and carrying the one 2 and the other 3 tons travel over a beam of 10 ft. span. Draw curves of max. B.M. and S.F.

3. A beam A B C D is supported at four points A, B, C and D, and the intermediate span B C is hinged at the two points E and F. The load upon the beam consists of 15 tons uniformly distributed over A B, 10 tons uniformly distributed over B E, 5 tons uniformly distributed over F C, 30 tons uniformly distributed over C D, and a single weight of 5 tons at the middle point of E F: A B = 15 ft; B E = 5 ft; E F = 15 ft; F C = 10 ft; C D = 25 ft. Draw curves of B. M. and S. F., and find points of inflexion.

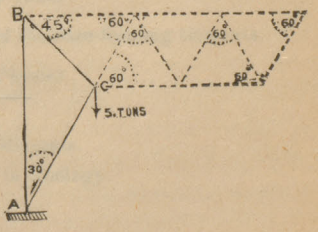
4. Draw the stress diagram for the truss represented by the Figure, the load at each of the points B and C being 500 lbs.



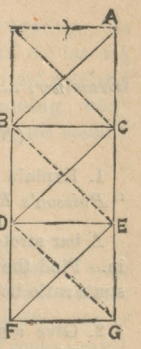
Also, if the rafter A B is subjected to a normal wind pressure of 100 lbs. per lineal ft., introduce the additional member required to prevent deformation, and state in lbs. the stress it should be designed to bear. Draw the stress diagram of the modified truss, assuming that the foot A is fixed, and that there are rollers at D.

(A B = A E = 15′; B C = 10′; angle B A D = angle E A D = 30°).

5. The post A B of a jib crane is 20 ft.; the jib A C is inclined at 30° and the tie B C at 45° to the vertical; the weight lifted is 5 tons. Find the stresses in the jib and tie, and the B.M. at the foot of the post, when the chain passes (*a*) along the jib, (*b*) along the tie, (*c*) horizontally from C to the post. The chain has *two* falls.



Draw the stress diagram when the throw is increased by introducing the members shewn by dotted lines.

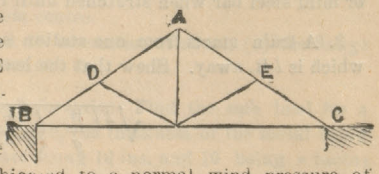


6. The pier represented by the Fig. is 60 ft. high and 20 ft. wide. Find the stresses in the several members ;

AC=CE=EG.

Data.—Weight at A = 60 tons; at each of the points B, C, D, E = 4 tons; wind pressure equivalent to a horizontal force of 50 tons at A and to a horizontal force of $2\frac{1}{2}$ tons at each of the points B and D.

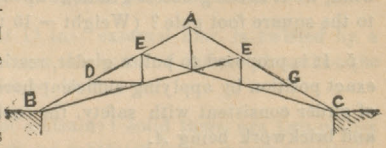
Is this a good form of pier? Why?



7. In the truss represented by the Fig., B C = 32 ft.; A F = 8 ft.; the load at each of the points D, A, E = 200 lbs. Draw the stress diagram.

Shew how this diagram will be modified when the rafter A B is subjected to a normal wind pressure of 2400 lbs., uniformly distributed, it being assumed that one half of the horizontal reaction is borne at each of the points B and C.

Discuss the effect of removing the strut D F.



8. The trusses for a roof of 80 ft. span are of the type shewn by the Fig. The rafters A B, A C are inclined at 60° to the vertical, and are trisected by the intermediate supports at D and E.

The principals are 10 ft. C to C, and the dead load of the roof is 10 lbs. per sq. ft. Find the stresses in all the members when there is a normal wind-pressure of 30 lbs. per sq. ft. upon A B, the truss being fixed at B and resting upon rollers at C.

Shew the effect of fixing C and placing rollers at B.

THIRD YEAR AND B. A. Sc. EXAMINATION.

APPLIED MECHANICS (*Paper II*).

FRIDAY, APRIL 8TH:—MORNING, 9 to 12.

Examiner, ... { HENRY T. BOVEY, M.A., M. INST. C.E., F.R.C.S.
JOHN J. NICHOLSON, B.Sc.

(*Not more than twelve questions are to be attempted*).

1. Explain fully the meaning of the terms "*Coefficient of Elasticity*," "*Poisson's Ratio*," "*Limit of Elasticity*," "*Resilience*."

A bar stretches $\frac{1}{3000}$th of its length under a stress of 10,000 lbs. per sq. in. Find the change in volume and the work done per cubic inch, Poisson's ratio being $\frac{1}{4}$.

2. Give a graphical representation of the behaviour of a wrought-iron or mild steel bar when stretched until it breaks.

3. A train starts from one station and is brought to rest at the next which is l ft. away. Shew that the least time between the two stations is

$$\sqrt{\frac{2\,l\,W}{g}\,\frac{P+B}{(P-R)(B+R)}} \text{ secs}$$

W being the gross weight of the train, P the mean uniform pull exerted by the engine, R the road resistance and B the retarding effect of the brakes.

Also find the max. speed attained.

4. If the end of a railway wagon exposes a surface of 6 ft. x 4 ft. to the wind, what is the greatest gradient up which it will be driven by a 20 lb. to the square foot gale? (Weight = 10 tons, friction = 10 lbs. per ton.)

5. It is proposed to pull a girder, resting upon two brickwork piers, into exact position by applying sufficient horizontal force. Find max. weight of girder consistent with safety, the coeff of friction between the girder and brickwork being .4.

6. Prove the relations

$$M = \frac{E}{R}\,I = \frac{f}{c}\,I$$

clearly stating all the assumptions you make. Find the stress at the skin and also at a point 4 ins. from the neutral axis in a piece of 10″ x 8″ oak (*a*) when the 10 ins. side is vertical, (*b*) when the 8 ins. side is vertical, the oak resting upon supports 3 ft. apart and carrying a load of 4900 lbs. at its middle point.

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7. In the last Question compare the strength of the beam with its strength when a diagonal is horizontal.

8. The cross-tie for a single track bridge is 14 ft. between bearings, the gauge of the rails $= 4\frac{3}{8}$ ft.; each of the flanges is composed of a 5 ins. x $\frac{1}{2}$ in. plate rivetted to a 20 ins. x $\frac{1}{2}$ in. web by means of two $2\frac{1}{4}''$ x $2\frac{1}{4}''$ x $\frac{1}{2}$ angle-irons; a load of 590 lbs. is concentrated at each rail crossing; what additional uniformly distributed load will the rail safely bear, the metal's coefficient of strength being 9000 lbs. per sq. in ?

9. Prove the relation

$$q\,w = + \frac{S}{I} A \bar{y}$$

The floor beam for a single track bridge is 15 ft. between bearings, and each of its flanges is composed of a pair of $2\frac{3}{4}''$ x $2\frac{3}{4}''$ x $\frac{3}{8}''$ angle-irons rivetted to a $30''$ x $\frac{3}{8}''$ web. The uniformly distributed load (including wt. of beam), upon the beam = 4200 lbs.; a weight of 1600 lbs. is concentrated at each rail crossing, *i. e.*, $2\frac{1}{2}$ ft. from centre.

Find (*a*) the ratio of the max. and av. intensities of shear, (*b*) the flange stress, (*c*) the stiffness, E being 27,000,000 lbs.

10. Enunciate and prove Gordon's formula. Find the safe load for a hollow square cast-iron pillar, 16 ft. high, the thickness of the metal being 1—in., the external side of the square being 16 ins. and 10 being a factor of safety ($f = 80{,}000$ lbs., $a = \frac{1}{5000}$)

11. Find the safe load on a rolled tee-iron strut $6'' \times 4'' \times \frac{1}{2}''$ 10 ft. long, fixed at one end and hinged at the other.

12. A hollow shaft of 5 ins. internal diar. and a solid shaft of 10 ins. diar. are of the same material and weight. Find the external diar. of the former, and compare the torsional strength of the two shafts.

13. A hollow cast-iron shaft of 12 ins external diar. is twisted by a couple of 30,000 ft. lbs., find the proper thickness of the metal so that the stress may not exceed 5,000 lbs. per sq. in.

14. Shew that at every point of a strained solid there are two planes at right angles to each other which are subjected to no shearing action.

At a point in a strained solid there is a tensile stress of 3 with an obliquity of 30° upon one plane and a compression of 1 with an obliquity of 45° upon a second plane. Find (*a*) the principal stresses, (*b*) the angle between the planes, (*c*) the plane subjected to a shearing action only and the magnitude of the shear.

15. Shew how to deduce the following expressions for the max. intensity stress (tensile or compressive), and the max. shear at the section of a shaft subjected to a bending moment M_b and a twisting moment M_t;

max. intensity of longitudinal stress $= \frac{2}{\pi r^3}\left(M_b + \sqrt{M^2_b + M^2_t}\right)$

max. intensity of shear stress $= \frac{2}{\pi r^3}\sqrt{M^2_b + M^2_t}$

A steel shaft is driven by means of a 12 ins. crank, the distance from the centre of the pin to the centre of the bearing being 15 ins.; the force applied to the crank pin = 5000 lbs.; find the proper diar. of the shaft, so that the stress in the metal may not exceed 11,200 lbs. per sq. in.

16. The upper half of the section of a retaining wall is a rectangle — ft. wide, the lower half is a rectangle 6 — ft. wide Find the height of the wall so that the stress in the base may nowhere exceed 10,000 lbs. per sq. in., the front of the wall being plumb and water being retained at the back level with the top of the wall.

(wt. of masonry = 125 lbs. per cubic ft.)

B. A. Sc. EXAMINATIONS.

APPLIED MECHANICS (*Paper III*).

MONDAY, APRIL 11TH :—MORNING, 9 to 12.

Examiner,..... HENRY T. BOVEY, M.A., M.INST.C E., F.R.S.C.

(*N.B.—No more than twelve Questions are to be attempted.*)

1. Prepare a Table giving the stresses in the several members of a double intersection through truss of 342 ft. span, 40 ft. depth and with 19 panels. (Double track bridge.) The engine, train and dead panel loads are 96,000, 53,000 and 43,200 lbs., respectively.

2. Prepare a Table of stresses for the truss in the last question, assuming it to be of the single intersection type.

B.A. Sc. EXAMINATIONS.

APPLIED MECHANICS (*Paper IV.*).

THURSDAY, APRIL 14TH :—MORNING, 9 to 12.

Examiner,..... ..... HENRY T. BOVEY, M.A., M.INST.C.E., F.R.S.C.

1. State the properties of the curve in which a cable of uniform section and material hangs under its own weight.

A wire cable of 1 sq. in. section is stretched between two posts 120 feet apart. If the modulus of the catenary = 180 feet, find the dip of the cable.

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Also find the greatest and least tensions, if the wire weighs 480 lbs. per cub. ft.

If the wire pass to a third post in a line making an angle of 120° with the first two posts, explain how the intermediate post should be stayed.

2. A cable for a suspension bridge of 90 ft. span consists of *nine* straight links; the dip = 10 ft.; the load borne by the cable = 100 lbs. per lineal ft. of span; find the sectional areas of the several links, allowing 10,000 lbs. per sq. in.

3. If the load upon a cable is of uniform intensity per horizontal unit of length, shew that the curve of the cable must be a parabola.

A foot path, 8 feet wide, is to be carried over a river 100 feet wide by two cables of uniform sectional area fixed to the summit of two piers, the one 30 ft. and the other 10 ft. above the lowest point of the cable.

Find (*a*) the length of the cable, (*b*) its weight, (*c*) the tensions at the piers and at the lowest point.

(The load on platform = 120 lbs. per sq. ft., the safe stress per sq. inch = 10,000; the weight of cable per cub. ft. = 490 lbs.)

4. If the stiffening truss for a suspension bridge is hinged at the centre, shew that every point of the truss may be subjected to equal maximum shears and equal max. bending moments of opposite signs.

5. Deduce the general conditions of equilibrium for an arched rib with both ends hinged.

An arched rib with parabolic axis, of 50 ft. span and 10 ft. rise, carries a weight of 2 tons at 15 ft., from the centre, measured horizontally. Find the shear and axial thrust at that point.

B.A. Sc. EXAMINATIONS.

HYDRAULICS (*Paper I.*)

SATURDAY, APRIL 16TH:—MORNING, 9 to 12.

Examiner,..... .....HENRY T. BOVEY, M.A., M.INST.C.E., F.R.S.C.

1 Enunciate and prove Bernouilli's Theorem, and state the conditions under which it is applicable to a current of finite section.

Apply the thorem to obtain the discharge through a cylindrical mouth-piece.

2. A vessel in the form of a paraboloid of revolution is full of water. In what time will it be emptied through a hole in the bottom, 1 sq. inch in area, the depth of the vessel being 4 ft., and the diar. of the base also 4 ft?

If the hole were plugged and if the vessel were made to rotate about its axis at the rate of 100 revolutions per minute, how much of the water would be spilled?

3. Shew how to determine the discharge through a partially submerged orifice.

4. State the laws of Fluid Friction.

5. Shew how to determine the flow between two reservoirs at different levels connected by a main of given length and diameter. The water surface in one reservoir is 500 feet above datum, and is 100 feet above the surface of the water in a second reservoir 20,000 ft. away, and connected with the first by an 18 in. main. Find the delivery per sec., taking into account the loss of head at the upper entrance.

6. Discuss the distribution of flow between three reservoirs at different heights above datum, through connecting mains of given diars. If a third reservoir with its water surface 300 ft. above datum is connected with the main in the preceding question by a 12 in. pipe, discuss the flow.

7. Explain the effect of a pipe's inclination upon the flow.

8. Explain what is meant by the term "hydraulic mean depth."

9. How far can 100 H.P. be transmitted by a $3\frac{1}{2}$ in. pipe with a loss not exceeding 25 per cent. under an effective head of 750 lbs. per sq. in.?

10. Deduce an expression giving the mean velocity of water in an open channel of uniform section and slope, and clearly state all the assumptions you make.

11. A canal is 20 ft. wide at the bottom, its side slopes are 1 to 1, its longitudinal slope is 1 in 500; calculate the flow per minute across a given vertical section when there is a depth of 8 feet of water in the canal.

12. A weir 2 ft. deep is built across the canal in the preceding question; find the increased depth of the water above the weir.

13. Find the time of emptying a tank 12 ft. square on plan, 6 feet deep through a pipe 4″ in diameter and 12 ft. long.

B.A. Sc. EXAMINATIONS.

HYDRAULICS (*Paper II.*).

SATURDAY, APRIL 16TH:—AFTERNOON, 3 P.M.

Examiner, ...HENRY T. BOVEY, M.A., M.INST.C.E., F.R.S.C.

1. A jet of 16 sq. ins. sectional area moving with a velocity of 10 feet per sec. in the direction AB drives a flat vane in the direction BC. The angle $ABC = 90°$, and the angle between AB and the vane $= 45°$. Find the speed of the vane which will give a max. efficiency, and find the corresponding work done.

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2. State the fundamental conditions which every water motor should fulfill.

3. Describe Poncelet's undershot wheel, and point out advantages over a wheel with flat buckets.

4. In an overshot wheel $v_1 = 17$ ft., $u = 11$ ft. per sec. ; elbow angle $= 70°$ division angle $= 5°$; water enters the first bucket at $12°$ from summit of wheel ; find (*a*) the relative velocity V so that water may enter unimpeded, (*b*) the direction of the entering water, (*c*) the diar. of the wheel which makes 5 revolutions per minute, (*d*) the position and direction of the sluice which is 2 ft., measured horizontally from the point of entrance.

5. Determine the efficiency of an outward flow turbine in terms of the vane angles, the depths of the inlet and outlet orifices being the same.

If the pressure heads at the outlet and inlet surfaces are equal, shew that

$\alpha = 2\gamma$ and also that $\dfrac{r^2_1}{r^2_2} = \dfrac{\sin\beta}{\sin^2\gamma}$

6. In an outward flow turbine the diar. of the inlet surface is $2\frac{1}{2}$ feet, and the outlet surface is 3 feet. The number of revolutions per minute is 1000 ; the velocity of whirl and the velocity of periphery at the inlet surface are equal ; find the *effective head* equivalent to the work done in driving the wheel.

B. A. App. Sc.

DESIGNS.

Examiners..... { Henry T. Bovey, M.Inst.C.E., F.R.S.C.
J. T. Nicolson, B.Sc., M.Can.Soc.C.E
W. A. Carlyle, Ma.E.

1. Compound mercantile engine : $24'' + 38''$ cylinders : $27''$ stroke : 70 revols. per min. : boiler pressure 70 lbs.

2. Compound marine engine : $24'' + 38''$ cylinders : $24''$ stroke : 115 revols. per min. : boiler pressure 70 lbs.

3. 60 stamp gold mill.

4. Dry-crushing silver mill.

5. A Warren girder bridge of 90 ft. span.

6. A Howe truss through single-track bridge of 120 ft. span.

7. A Brostring single-track bridge of 80 ft. span.

8. A king post roof of 40 ft. span.

9. A roof of Polonesian type of 80 ft. span.

10. A double intersection truss bridge, double track, of 184 ft. span.

11. A single-intersection truss bridge, double track, of 184 ft. span.

FIRST YEAR.

FREEHAND DRAWING.

FRIDAY, APRIL 1ST: — 2 TO 5 P.M.

Examiners, ... { C. H. McLEOD, MA.E. / A. T. TAYLOR, R.C.A.

1. Make a copy of the ornament before you.

2. Make a drawing of the group of models as seen from your point of view.

3. Make a drawing of the Instrument stand as it appears from your point of view.

THIRD YEAR.

DESCRIPTIVE GEOMETRY.

WEDNESDAY, MARCH 30TH:—MORNING, 9 TO 12.

Examiner..... C. H. McLEOD, MA.E.

1. A line is inclined at 45° to the horizontal and at 30° to the vertical. Find the traces of a plane which contains the line and is itself inclined at 60° to the horizontal.

2. Construct an hyperboloid of revolution. The radius of the throat circle is 0.5 in., and the generating line inclined at an angle of 45° the plane of this circle.

3. A sphere of 2 in. diameter touches the axis of hyperboloid in question (2) at a point 1 in. distant from the throat. Find the projections of the line of penetration.

4. The angles of two of the faces of a solid angle are 60° and 40°, and the contained dihedral angle is 45°. Find the other parts.

5. The scales along two of the axes of an axometric projection are $\frac{3}{4}$ and $\frac{5}{8}$, find the third scale.

6. A cone stands on a plinth. Find the shadow cast on the horizontal and on the plinth when the projections of rays makes angles of 30° with xy.

7. Find the perspective projection of the objects in question (6) when the faces of the plinth make angles of 30° and 60° with the picture plane. The distance of the spectator is 20 ft. and the height of the eye 6 ft. Scale $\frac{1}{4}$ in.=one foot.

8. A regular hexagonal prism of one inch side is penetrated by a sphere of 1.2 in. radius. The centre of the sphere is 0.5 in. distant from the axis of the prism. Project the lines of penetration on a plane parallel to that containing the axis of the prism and the centre of the sphere.

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SECOND YEAR.

GEOMETRICAL DRAWING AND PROJECTION.

WEDNESDAY, MARCH 30TH :— MORNING, 9 to 12.

Examiner,.....C. H. MCLEOD, MA.E.

1. A circle of 2 in. diameter rolls within one of 3 in. diameter. Draw one arc of the curve marked out by a point in the circumference of the 2 in. circle.

2. A regular pentagonal prism has one edge of an end in the horizontal plane and the edge is at an angle of 60° to the vertical. The axis makes an angle of 45° with the horizontal. Show the plan and elevation. (*a*) Make the sides of the end 1 in. and the axis 3 in., and find the section caused by a plane entering at an angle of one end and containing the opposite side of the other end.

3. A regular hexagonal prism of 1 in. side is penetrated by a sphere of 1.2 in. radius. The centre of the sphere is 0.5 in., distant from the axis of the prism. Project the lines of penetration on a plane parallel to that containing the axis of the prism and the centre of the sphere.

4. Project a square threaded screw. Outside diameter 3 in., pitch 1 in.

5. Show that the axes in an Isometric projection make angles of 120° with each other.

6. The axes of an axometric projection make angles of 100° and 150°. Find the scales and project a cube of 2 in. side.

7. Divide an angle of 60°, so that the sines of the parts will be to each other as 3 to 4.

SURVEYING.

SECOND YEAR.

FRIDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiner,.....C. H. MCLEOD, MA.E.

1. Show by a sketch a vernier scale reading to 20″ and set to read 15° 32′ 40″.

2. How would you determine the declination of the needle of a Surveyor's compass?

3. Explain how you would examine the adjustment of a Dumpy-level.

4. Give an imaginary set of notes for a line of levels between two points whose difference in level is 25.15 ft., and show how to check the reduction of the notes.

5. Explain how to adjust a transit theodolite for the measurement of angles of *altitude*.

6. Measure the angle at the transit instrument betwen A and B, making one set of three repetitions in reversed positions.

7. Show how to make a plane-table survey by the method of *intersections*.

8. The focal length of a telescope having stadia hairs is 12 in. and the distance of the object glass from the axis of rotation of the telescope is 6 in. The distance corresponding to a reading of 1.00 ft. on the stadia rod is 101.5 ft., find the distance corresponding to a reading of 4.50 ft.

9. The length of AB is 235 ft. and bearing N. 30° E. The length of BC is 384ft. and bearing S. 70° W. Find the length and bearing of AC by the method of latitudes and departures. (*a*) Find the double longitudes of all the lines with reference to the meridian of B, and show how to find the area ABC.

10. An underground survey is connected with the over-ground survey at two points. Show how to reduce the bearings of the latter to the meridian of the former.

THIRD YEAR.

SURVEYING AND PRACTICAL ASTRONOMY.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner.....C. H. MCLEOD, MA.E.

1. Measure the index error of the sextant.

2. Observe the reading of the Filar Micrometer on the horizontal limb of the altazimuth.

3. Explain the different methods of current gauging.

(*a*) Show how to rate a meter, and the treatment of the results of the tests.

4. Show that the spherical excess in a triangle is proportional to he area of the triangle.

5. Suppose a church spire is one of the angles of a triangle in a trigonometrical survey. How would you measure the angle at the spire by means of an auxiliary angle?

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6. The transits of four stars were observed as follows :—

	LAMP WEST.		LAMP EAST.		
A	—0·62	0·62	0·63	—1·21	
B	2·06	0·80	0·78	2.66	$b = +0{\cdot}18$ s.
C	2·16	1·01	1·01	2·92	
	h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	
T	10 58 7·38	11 0 26·81	11 16 34·34	11 26 4·34	
a	10 57 6·86	10 59 27·88	11 15 35·23	11 25 4·04	

(*a*) Write down the four equations and obtain an approximate value for ΔT.

7. Name three methods of determining latitude by observations in the meridian, and explain the use of the zenith telescope in one of these.

8. Explain the use of the "solar attachment" in the determination of the meridian.

9. The following comparison of clocks was made on March 26th, 1892, at Montreal. Mean time 10*h*. 21*m*. 25*s*. = sidereal clock 10*h*. 48*m*. 11*s*. The sidereal was 59·76*s*. fast. Find the error of the mean time clock (*a*) on local time, (*b*) on standard time (5 hours slow of Greenwich). The longitude is 4*h*. 54 *m*. 18·54*s*.

B.A. Sc. EXAMINATION.

MACHINE DESIGN.

MARCH 26TH :—AT 9 A.M.

Examiner,.....J. T. NICOLSON, B. Sc.

1. An engine with H.P. cylinder 35″ dia., 60″ stroke, revolutions 60, boiler pressure 100. Find the sizes of the piston rod. Take ratio of length to diameter 10, allowable stress 4,000.

2. Find the diameter at middle of the connecting rod for engine in (1). Ratio of length to diameter 15. Stress the same as in (1).

3. What bearing pressures would you allow (*a*) on the gudgeon pin, (*b*) on the slipper, (*c*) on the crank pin, (*d*) on the main bearings, (*e*) on the eccentric sheaves of a marine engine?

4. You are required to find the size of a hollow mild steel flywheel shaft for a 3 crank engine indicating 2000 HP at 50 revs. per min. Take the internal diameter half the external, and the ratio of max. to mean switting moment in such an engine at 1.4. ($f_s = 4\frac{1}{4}$).

5. What size of key would you put on the shaft of (4) to transmit the whole power?

6. What size would you make the ports for the H.P. cyl. in (1)?

7. Draw Zeumner valve and Müller piston-path diagrams for top end of (1) and (6). Take lead $\frac{1}{4}$ cut off at half stroke, release 5′ from bottom, connecting rod 4 cranks. Determine the outside and inside laps and angle of advance.

8. Show that for double butt strapped riveted joints

$$p = \frac{e\,N\,\pi}{4}\,\frac{d^2}{t}\,\frac{fs}{ft} + d$$

where e is the ratio of double shear to single shear strength of rivets, N is the number of rivets in a pitch length of joint, fs is the shearing strength of rivet, and ft the tearing strength of plate after drilling.

9. Design a joint with double butts of the form shown, for a boiler 13′ 0″ dia. to work at 150 lbs. press.

Take $e = 1\ 75$, $f_s\ f_t \cdot 23/28 + d/t = 1$.

B. A. Sc. EXAMINATION.

THERMODYNAMICS.

WEDNESDAY, APRIL 6TH:—9 TO 12.

Examiner,.....J. T. NICOLSON, B. Sc

1. What are the effects in regard to molecular motion and position of the addition of a small quantity of heat to a substance such as a gas?

2. Deduce the first principal equation of Thermodynamics. Explain its meaning.

3. Deduce the second principal equation of Thermodynamics.

4. How do Thomson and Teuner introduce absolute temperature?

5. Define "simple reversible cycle:" describe Carnot's cycle.

6. Define "entropy," and show that if a substance expands along an adiabatic the entropy is constant.

7. State Boyle's, Charles', Regnault's and Joule's laws for the permanent gases.

8. Investigate the equation to the adiabatic line for a gas.

9. Shew that the efficiency of a perfect heat engine is the ratio of the difference of the temperatures of "boiler" and "condenser" to the absolute temperature of the "boiler."

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10. Find the expression for the mean forward pressure of an engine whose working substance expands hyperbolically.

11. What size would you make the cylinders of a compound engine to develop 500 H.P. at 60 revs. 30″ stroke. Take initial pressure 115 absolute ; rate of expansion 10 ; ratio of cylinder areas 4, and let each cylinder do half the whole work. Condenser pressure 4 lbs.

12. What amount of injection water at 60° F would you supply for the jet condenser of (11) ? Take temperatures of entering steam and botwell at 140° F and 100° F.

13. What size air pump would you make for (11), (12) ?

14. How do you begin, conduct and end (*a*) a boiler trial, (*b*) an engine trial.

Loge 10 = 2·3026.
Loge 2·5 = ·9163.
Loge 1·95 = ·7178.

THIRD YEAR.

DYNAMICS OF MACHINERY.

MARCH 26TH :—AT 9 A. M.

Examiner,.....J. T. NICOLSON, B. SC.

1. Show how to draw a curve of piston velocity for an ordinary steam engine. You are required to set up the ordinates on the piston path.

2. Having drawn the velocity curve in (1), show how the curve of piston acceleration is deduced from it.

Or, 1*a* and 2*a*. In a Marshall valve gear of given proportions, show how to draw the curve of acceleration of the slide valve.

3. A rope thrown over a 3 foot pulley has weights of 200 lbs. and 50 lbs. fastened to its ends ; what *H P* will this arrangement absorb at 120 revolutions ?

4. Find the kinetic energy at 240 revs. of a line of 3″ shafting 100 feet long, with 20 iron pulleys keyed thereon. Each pulley may be assumed, for calculation purposes, to consist of a rim $\frac{1}{2}$″-thick, 12″-broad and $\frac{8}{\pi}$ feet mean diameter. Take $\frac{1}{4}$ lb. as the weight of a cubic inch of shaft and pulley.

5. On the assumption that the vertical wear of bearings is the same at all points, and that the normal pressure is proportional to the normal wear, shew that the work lost in friction per revolution is

$\frac{4\ \pi\ r\ \mu\ R\ \sin\ a}{a\ +\ \sin\ a\ \cos\ a}$; where r is the shaft radius, μ its coefft. of friction, and R the load. $2a$ is the angle subtended at the centre by the length of shaft circumference which bears on the step.

Or 5*a*. Give some account of Beauchamp Tower's experiments on journal friction. What assistance do they give in proportioning journals? Assuming that one square inch of journal surface can dissipate $\frac{1}{10}$ of a British unit of heat, find the length of a bearing running at 420 revs. under a load of 30,000 lbs. Take $\mu = 0.01$.

6. In a long wire rope drive show that for a given value of f, the tensile stress in the wires, the total longitudinal tension in the rope is greatest when the diameter of the pulleys is $\frac{3\ E}{4\ f}$ times the diameter of the wire of which the rope is made.

7. Show that the moment of inertia of a fly-wheel whose rim has a mass M and mean radius R, and whose spokes of uniform section are of total mass m is $\left(M\ +\ \frac{m}{3}\right)R^2$ nearly.

8. Investigate an expression for the mass of a fly-wheel in terms of the work done by the engine per stroke (E), the coefft. of fluctuation of that energy (k), and the allowable coefft. of fluctuation of velocity (q).

9. Draw a Zenner valve diagram for a valve with lead $\frac{1}{8}''$, outside lap $\frac{3}{4}''$, maximum port opening to steam $1''$, and inside lap $\frac{1}{8}''$ negative. Determine angles of crank at admission, cut off, release, compression.

FIRST YEAR.

CHEMISTRY.

TUESDAY, APRIL 12TH :—MORNING, 9 TO 12.

Examiners, ... { B. J. HARRINGTON, B.A., PH.D.
NEVIL NORTON EVANS, B.A.Sc.

1. State what you know with regard to Boron and its compounds.

2. A sample of Hematite contains 0.60 of the theoretical proportion of Iron. How many tons of Pig Iron containing 95 per cent. of Iron can be made from 100 tons of the ore?

3. Explain the chemical principles involved in the smelting of Copper Ores. How many pounds of Copper are there in a ton of Malachite?

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4. State briefly how you would prepare four of the following compounds :—Lead Iodide, Silver Bromide, Potassium Hydroxide, Hydrofluoric Acid, Phosphine.

5. What do you understand by the periodic law of the elements? Give the two first periods of Mendeleef's Table.

6. Describe the production of Aluminium from Bauxite. Give the properties of the metal.

7. Give the composition of each of the following alloys:—Britannia Metal, Type Metal, Brass, Speculum Metal, Bronze.

8. How would you distinguish a Phosphate from an Oxalate, an Iodide from a Bromide, a Borate from a Silicate, a Sulphite from a Sulphate?

9. A solution contains 0.536 grm. of Blue Vitriol. How much Ferrous Sulphide and how much Sulphuric Acid must be used in order to produce sufficient Sulphuretted Hydrogen to precipitate all the Copper as Sulphide?

10. Express by means of equations the changes that take place (*a*) when Ammonium Oxalate is added to a solution of Calcium Nitrate, (*b*) When Potassium Iodide is added to a solution of Mercuric Chloride, (*c*) when Silver Nitrate is added to a solution of common Sodium Phosphate.

SECOND YEAR (*Departments of Chemistry and Mining*).

PRACTICAL CHEMISTRY.

TUESDAY, APRIL 12th :—MORNING, 9 TO 12.

Examiners, ... { B. J. HARRINGTON, B.A., PH.D.
NEVIL NORTON EVANS, B.A.SC.

1. What volume of Hydrogen Sulphide at 750 mm. and 16° C. would be required to precipitate all the Antimony from a solution containing 2 grams of Tartar Emetic?

2. Explain briefly the use of Barium Carbonate, Potassium Nitrite, Ammonium Molybdate and Ferric Chloride as reagents in qualitative analysis.

3. Describe briefly the qualitative analysis of an alloy containing Tin, Lead, Copper and Zinc.

4. Under what conditions may Zinc be separated from Manganese by means of Hydrogen Sulphide?

5. How is Nessler's reagent prepared? Explain its use in the detection of Ammonia.

6. Explain by means of equations the action upon Zinc of Nitric Acid of different degrees of dilution.

7. How much Platinic Chloride must be added to a solution containing 0.65 grm. of Potassium Chloride in order to precipitate all the Potassium as Chloroplatinate?

8. How may Ferric salts be converted into Ferrous and conversely Ferrous salts into Ferric?

9. Express by means of equations the reactions that take place in any two of the following cases:—(*a*) When Ammonia water is added to a solution of Magnesium Sulphate. (*b*) When a dry mixture of Sodium Chloride and Potassium Bichromate is heated with Sulphuric Acid. (*c*) When Mercurous Chloride is treated with Ammonia-water.

10. Describe the analysis of Silicates which are not decomposed by ordinary acids.

11. What are the principal reactions employed in the detection of Acetic and Formic Acids?

SECOND YEAR (*Department of Chemistry*).

CHEMISTRY.

FRIDAY, APRIL 1ST:—MORNING, 9 TO 12.

Examiner,..... ....B. J. HARRINGTON, B.A., Ph.D.

1. In the precipitation of Aluminium Hydroxide from an aqueous solution of the Sulphate by means of Sodium Thiosulphate, the other products of the reaction are Sodium Sulphate, Sulphur and Sulphurous Anhydride. Deduce algebraically the number of molecules of each substance concerned in the reaction.

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2. Discuss the Alums and their constitution. What are the relative intrinsic values of crystallised Aluminium Sulphate, Potassium Alum and Ammonium Alum, if the quantity of normal Aluminium Hydroxide obtainable from each be taken as the standard?

3. How would you prepare the Nitrates of Barium and Strontium from their respective Sulphates?

4. Give briefly the sources, preparation and properties of Lithium, Cæsium, and Rubidium.

5. What three series of compounds are formed by Chromium? Explain the constitution of the Potassium Chromates by means of structural formulæ.

6. What takes place (*a*) when Sulphurous Anhydride is passed into aqueous solution of Cupric Chloride, (*b*) when Red Lead is treated with dilute Nitric Acid, (*c*) when Hydrochloric Acid is poured upon bleaching powder?

7. Give briefly the preparation of three of the following compounds:—Potassium Iodide, Cuprous Sulphocyanate, Mercurous Chloride, Magnesium Chloride, Potassium Permanganate.

8. Give the formulæ of the Oxides of Copper and Manganese.

9. State what you know with regard to the Sulphates of Iron and Zinc.

10. Distinguish carefully between empirical, molecular and constitutional formulæ.

THIRD YEAR (*Departments of Chemistry and Mining*).

PRACTICAL CHEMISTRY.

THURSDAY, APRIL 14TH:—MORNING, 9 TO 12.

Examiners, ... { B. J. HARRINGTON, B.A., PH.D.
NEVIL NORTON EVANS, B.A.SC.

1. How much Caustic Potash must be added to a solution containing one gram of Blue Vitriol in order to precipitate all the copper?

2. Describe the estimation of Lead as Sulphate.

3. How much crystallised Lead Acetate can be obtained by dissolving 100 grms. of Lead Carbonate in Acetic Acid? What volume of Carbon Dioxide would be given off?

4. How would you determine the percentage of Chromium in a specimen of Potassium Bichromate?

5. Describe the quantitative analysis of Gypsum.

6. How much Iron can be converted from Ferrous to Ferric salt by one gram of Potassium Permanganate?

7. Describe the valuation of a sample of Pyrolusite.

8. How would you determine the quantity of Alumina in Alum?

9. How may pure Sodium Chloride be prepared?

10. Explain the volumetric estimation of Chlorine.

B.A.Sc. EXAMINATIONS (*Department of Mining Engineering*).

ASSAYING.

THURSDAY, APRIL 7TH:—MORNING, 9 TO 2.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. What are the principal points to attend to in the mechanical preparation of ores for assaying?

2. Describe the dry assay for Mercury.

3. State what you know with regard to losses of Gold and Silver in the scorification assay.

4. What are some of the best forms of battery for electrolytic work? Describe them and the manner of using them.

5. What are the chief sources of error in the electrolytic assay of Copper ores?

6. Describe the estimation of Copper by precipitation as Cuprous Sulphocyanate. What weight of Cuprous Sulphide would one gram of the Sulphocyanate yield?

7. How would you ascertain the value of a sample of Pyrrhotite?

8. Describe the Lead assay with Potassium Cyanide.

9. How would you determine the quantity of Sulphur present in Sulphates in a sample of Coal?

10. If an Argentiferous Lead contain one half of one per cent. of Silver, how many grams of Litharge will be produced in the process of cupellation for each gram of Silver extracted?

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B.A.Sc. EXAMINATIONS (*Department of Practical Chemistry*).

ANALYTICAL CHEMISTRY AND ASSAYING.

THURSDAY, APRIL 7TH:—MORNING, 9 TO 12.

Examiner,..... .....B. J. HARRINGTON, B.A., PH.D.

1. Explain Emmerton's volumetric method for the estimation of Phosphorus in Iron and Steel.

2. Describe the colorometric estimation of Carbon in Steel.

3. Give Elliot's Iodine method for the determination of Sulphur in Iron and Steel.

4. Explain the application of electrolytic methods in the analysis of an alloy containing Tin, Lead, Copper and Zinc.

5. Give Rose's method for the separation of Tin and Antimony.

6. How does Sulphur exist in Coals? How may the proportions existing in different states be determined?

7. In the estimation of Copper in an ore by the Iodide process, 0.5 gram of pure Copper required 50.2 c.c. of the Thiosulphate solution, while 2 grams of the ore required 25 c.c. What was the percentage of Copper in the ore? Give details of the process.

8. How would you estimate the proportions of Ferrous and Ferric Iron in an insoluble Silicate.

9. How would you determine the Lead in a sample of commercial Zinc?

10. How would you detect the presence of Hydrocarbon Oils in Linseed Oil? How determine the quantity of the adulterant?

11. Give briefly two methods for the estimation of Fat in Milk.

12. Describe briefly the quantitative analysis of any two of the following:—Crystallised Oxalic Acid, Ethyl Mercaptan, Potassium Nitrate, Zinc Blende.

13. The Ammonia obtained from 0.8 grm. of an organic body on treatment by the Kjeldahl process was condensed in 100 c.c. of normal Sulphuric Acid. The solution was made up to 250 c.c. and after dilution 33.9 c.c. were required to neutralise 10 c.c. of normal Sodium Hydrate. From these figures deduce the percentage of Nitrogen in the body.

B. A. Sc. EXAMINATIONS (*Department of Chemistry*).

INORGANIC CHEMISTRY.

FRIDAY, APRIL 1st.—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., Ph.D.

1. What reactions are made use of in determining whether Hydroxyl is present in a compound?

2. What are Amido-Acids? By what reaction are they commonly prepared? Give examples.

3. What reactions of Glycerine lead to the conclusion that it is a Tri-acid Alcohol?

4. Explain the distinction between Normal, Iso- and Neo-Paraffins. Illustrate by structural formulæ.

5. By what series of reactions would you obtain Glycolic Acid from Marsh Gas? Give equations.

6. Explain the constitution of Hippuric Acid. What relation does this acid bear to Benzamide?

7. Classify the Carbohydrates, and briefly describe one member of each group.

8. What evidence is there as to a difference of constitution in the Alcoholic Cyanides and the corresponding Iso-Cyanides?

9. A non-volatile monacid base gave on analysis the following percentage composition :—Carbon 49.51, Hydrogen 5.22, Nitrogen 28.99, Oxygen 16.28. Its Platinum double salt yielded on ignition 24.6 per cent. of Platinum. Deduce its molecular formula.

10. How may the derivatives of the Hydrocarbon series C_nH^{2n-6} be classified? Give examples of each class.

11. State what you know with regard to the Phenols and their constitution.

12. Give structural formulae for the following bodies :—Ethyl Sulphonic Acid, Benzyl Aldehyde, Anthracene, Meta-Xylene, Secondary Propyl Alcohol.

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B.A.Sc. EXAMINATION (*Department of Chemistry*).

INORGANIC CHEMISTRY.

WEDNESDAY, APRIL 6TH :—MORNING, 9 TO 12.

Examiner,.....B. J. HARRINGTON, B.A., PH.D.

1. Explain Raoult's method for the determination of molecular weights.

2. What do you understand by the avidity of acids? How is relative avidity determined?

3. By heating Platinic Chloride in Hydrogen and adding Silver Nitrate to the aqueous solution of the Hydrogen Chloride produced, 8.7069 grams of Silver Chloride were obtained. The metallic Platinum left weighed 2.9621 grams. From these figures deduce the atomic weight of Platinum.

4. Explain the constitution of the Polysilicic acids.

5. How are Chloric and Perchloric Acids prepared, and what are their properties?

6. How may it be shown experimentally that Ammonia contains three volumes of Hydrogen for one of Nitrogen?

7. State briefly how you would prepare any four of the following :— Potassium Nitrite, Ammonium Carbamate, Potassium Permanganate, Barium Dioxide, Anhydrous Magnesium Chloride.

8. Express by means of equations the changes that take place in each of the following cases :—(*a*) When Arsine is passed into an aqueous solution of Silver Nitrate, (*b*) When Potassium Permanganate is treated with Sulphuric Acid, (*c*) When a solution of Stannous Chloride is allowed to stand in contact with the air.

9. Explain Weldon's process for the regeneration of Manganese Dioxide, giving equations.

10. State what you know with regard to the composition and manufacture of White Lead.

MINING.

THIRD YEAR (*Mining Course*).

FRIDAY, APRIL 1ST :—MORNING, 9 TO 12.

Examiner,.....W. A. CARLYLE, B.A. Sc

1. Give a full definition of a "vein" of mineral, and give some of the chief characteristics of a true vein.

2. What are "faults," and what rules would guide you in looking for the continuation of a faulted ore body?

3. What should guide a prospector in "prospecting" for bodies of valuable mineral?

4. Describe how to transfer a bearing or true meridian to under-ground workings by means of one vertical shaft.

5. Give methods, with sketches, of working a wide vein or ore body with steep inclination, showing details of timbering.

6. Describe methods of working out ore bodies by "under-hand" and "over-hand" stoping. Discuss relative merits of each.

7. Describe, giving sketches, any method of mining a stratum of coal seven feet thick.

8. Describe the working of a Cornish pump, giving reasons for using one.

9. What are the uses of sluices in hydraulic mining; describe their working; also explain, with a sketch, the use of an "under-current."

10. Explain the meaning of each of the following terms:—"stope," "winze," "up-cast shaft," "compressor," "chute," "plug and feather," "thill," "goaf," "core drill," "Korting's exhaust."

B.A.Sc. EXAMINATION.

METALLURGY.

WEDNESDAY, APRIL 13TH, 1892:—MORNING, 9 TO 12.

Examiner, ... W. A. CARLYLE, B.A.Sc.

1. What method of metallurgical treatment would be selected in each of the following cases:—

(*a*) Ores containing free gold and gold-bearing sulphurets.

(*b*) Free gold in small quantities but with much silver present in sulphurets.

(*c*) Silver ores consisting of part chloride or decomposed, and part silver-bearing sulphurets.

(*d*) Solid galena ores.

(*e*) Metallic copper ores.

2. How does gold exist in Nature? What is meant by "free-milling gold"?

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3. Describe a stamp mill, giving details with sketches, of (*a*) the foundation, (*b*) mortar, (*c*) and stamps.

4. Discuss the relative merits of stamps and rolls for crushing ores.

5. Describe the preparation and use of copper amalgamating plates.

6. Describe the treatment of gold ores by "Pan Amalgamation."

7. Give different methods of roasting silver ores, with a short description of each.

8. Describe the Russell Process for treating silver ores.

9. Describe with sketches American Water-Jacket Furnaces for smelting silver, lead and copper ores.

10. What are, very briefly: "Grizzly," "Cornish Rolls," "Patio," "Base Bullion," "Blister Copper."

11. Describe briefly the Bessemer Process for the manufacture of steel.

12. What are "silver glance," "ruby silver," "black Jack," "heavy spar," "horn silver," "mispickel," "grey copper," "blue lead," "yellow copper," "pyrites."

(Answer any ten questions only.)

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UNIVERSITY SCHOOL EXAMINATIONS, 1892.

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UNIVERSITY SCHOOL EXAMINATIONS.

PRELIMINARY SUBJECTS.

READING.

Bruce came back to Scotland with renewed hope and courage; and now his fortunes were entirely changed. He defeated the English whenever he met them, and the battle of Bannockburn made him completely victorius over his enemies. The night before this great battle began, Bruce, mounted on a little pony, and with battle-axe in hand, rode along the front of his army, addressing words of encouragement to his men. On his basinet he wore a small crown, distinguishing him from his knights. When the main body of the English came up, an English knight, Sir Harry de Bohun, seeing the Scottish king riding along in this manner, set spurs to his horse, and, with spear couched, galloped against him. The king saw him, and permitted him to come very near, then suddenly turned his pony a little to one side, so that Sir Harry missed him with the lance point, and was in the act of being carried past by the career of his horse. But King Robert rose in his stirrups, and struck Sir Harry on the head with his battle-axe so terrible a blow that it broke to pieces his iron helmet, and hurled him dead from the saddle. Bruce, when reproached by his lords for exposing himself unnecessarily, did nothing but grumble that he had broken the shaft of his battle-axe.

WRITING.

WEDNESDAY, JUNE 1ST:—MORNING, 10.45 TO 11.

1. Write (*a*) your name in full;

   (*b*) your post office address;

   (*c*) your age on the 1st of June, 1892;

   (*d*) the name of your school.

2. (*a*) Write the numerals from 1 to 20 inclusive.

   (*b*) Write the letters of the alphabet in capitals.

3. Write:—

   These are Thy glorious works, Parent of good,
   Almighty! Thine this universal frame,
   Thus wondrous fair: Thyself how wondrous then
   Unspeakable!

DICTATION.

WEDNESDAY, JUNE 1ST :—MORNING, 10.30 TO 11.30.

It was a village where many of the old echoes lingered, undrowned by new voices. Not that it was one of those barren parishes lying on the outskirts of civilisation—inhabited by meagre sheep and thinly scattered shepherds; on the contrary, it lay in the rich central plain of what we are pleased to call Merry England, and held farms which, speaking from a spiritual point of view, paid highly desirable tithes. But it was nestled in a snug well-wooded hollow, quite an hour's journey on horseback from any turnpike, where it was never reached by the vibrations of the coach-horn or of public opinion. It was an important looking village, with a fine old church and large churchyard in the heart of it, and two or three large brick and stone homesteads, with well-walled orchards and ornamental weathercocks, standing close upon the road, and lifting more imposing fronts than the rectory, which peeped from among trees on the other side of the churchyard: a village which shewed at once the summits of its social life, and told the practised eye that there was no great park and manor-house in the vicinity, but that there were several chiefs who could farm badly quite at their ease, drawing enough money from their bad farming in those war times to live in a rollicking fashion and keep a jolly Christmas, Whitsun and Easter tide.

GEORGE ELIOT: *Silas Marner*, Chapter I.

Note for the local Examiner. The extract is to be read three times:—

1st time. In an ordinary manner, so as to give candidates a general idea of its drift. During this reading, all pens must be placed on the desks.

2nd time. Slowly, with distinct enunciation, for the candidates to take down.

3rd time. At ordinary speed, with proper pauses suggesting stops. Any word may be repeated by the Examiner at the request of a candidate.

ENGLISH GRAMMAR.

WEDNESDAY, JUNE 1ST :—MORNING, 9 TO 10.30

Examiners,..... JOHN L. DAY, B.A.
REV. PRINCIPAL ADAMS, D.C.L.
P. T. LAFLEUR, M.A.
REV. R. HEWTON, M.A.
REV. J. HEPBURN, M.A.

(*Division I must be attempted by all.* Answer *two* questions, but not more, from each of the Divisions II and III. Be careful in lettering and numbering your answers, and *write all that belongs to one answer on the same page or on consecutive pages.*)

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I.

1. Analyse:

(*a*) Ill could the haughty Dacre brook
His brother warden's sage rebuke.

(*b*) Tell me not in mournful numbers
Life is but an empty dream.

(*c*) The dwarf dealt one of the champions a most angry blow.

(*d*) A mutiny broke out which all the vigour and resolution of Cromwell could hardly quell.

2. Parse:

I shall be pardoned for calling it by so harsh a name as madness.

3. Write the past tense (one word) and past participle of: clothe, hurt, strew, lay, lie (repose), seethe, congeal, chide, bear.

4. (*a*) Give the feminine of: friar, hart, steer, drake, colt, earl, bachelor. (*b*) The plural of: summons, mouth, mosquito, genius (2 forms), dwarf, soliloquy, swine.

II.

1. Classify the consonants.

2. (*a*) Define: *gerund*, *clause*, *voice*, *apposition*, *case*, *participle*, *vowel*. (*b*) Name the auxiliary verbs which express obligation.

3. (*a*) Distinguish clearly between *shall* and *will*, illustrating your answer. (*b*) Give the rules (with any exceptions thereto) which govern the comparison of adjectives.

III.

1. Enumerate the different uses of *it* and of *one*. Examples.

2 (*a*) State the subdivision to which the following pronouns belong: Either, us, these, whom, myself. (*b*) Mention the defective verbs.

3. (*a*) What do the following suffixes indicate: ee, dom, kin, en, ible escence, ary, ic. (*b*) The following prefixes: dys, pro, pan, for, ob, be.

ARITHMETIC.

THURSDAY, JUNE 2ND:—MORNING, 9 TO 10.30.

[*Only two questions are to be answered from each section.*]

SECTION I.

1. Give the number of inches in a metre, and hence express a millimetre in inches and a kilometre in feet.

A kilogramme is equal to 2.2046 lbs. avoirdupois, and a cubic inch of water weighs 252.9 grains. Hence find the number of cubic inches in a litre.

2. A man owns $\frac{1}{5}$ of a ship worth $3484, which is insured for $91\frac{2}{3}$ per cent. of its real value; what would he lose in case the ship were lost?

3. If a pound of sugar cost .0093125 of $8, what will $.2\dot{3}\dot{7}$ of 16 barrels of 198 pounds each cost?

SECTION II.

4. What sum must be paid to discharge a debt of $6,732.40 due 14 months hence, interest being at 5 per cent.?

5. A person sells $5300 three per cent. stock at 86, and invests the proceeds at $3\frac{3}{4}$ per cent. interest. Find the alteration in his income.

6. What must be the rate per cent. that the simple interest at the end of 16 years, 8 months, may be $\frac{7}{8}$ of the sum lent?

SECTION III.

7. Find the value of $\frac{3\frac{1}{7}}{7\frac{4}{5} \text{ of } \frac{3}{4}} \times \frac{\frac{5}{7}-\frac{1}{4}}{\frac{3}{8}+\frac{3}{7}}$ of $5.67.

8. What number is that of which $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ added together will make 48? Find the square root of 1015.6969.

9. Two boys, A and B, come into school punctually by their watches, which are correct at 9 o'clock Monday morning; A's watch gains 2 minutes each day, B's watch loses $1\frac{1}{2}$ minutes each day; how much will B be later than A on Friday afternoon, the school opening at 2 p.m.?

GEOGRAPHY.

MONDAY, JUNE 6TH:—MORNING, 9 TO 10.

Examiners, ... { REV. R. HEWTON, M.A.; REV. PRINCIPAL ADAMS, D.C.L.; P. T. LAFLEUR, M.A.; REV. J. HEPBURN, M.A.; JOHN L. DAY, B.A.

I. Explain the following geographical terms:—(1) Lagoon, (2) Latitude, (3) Nadir, (4) Antipodes, (5) Delta, (6) Oasis, (7) Tide, (8) Mirage, (9) County, (10) Township.

II. Name ten of the Principal Rivers of North America. In the case of five of these rivers state the trade carried on in connection with each.

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III. State the area and population of the Dominion of Canada and compare them with the area and population of the United States. Name six *classes* of the principal Canadian productions.

IV. Name the great land divisions of the Globe, and describe the natural features of any one of them.

V. Draw neatly in pencil outline a map of Europe, showing the countries and their capitals and the principal rivers and mountains.

HISTORY—BRITISH AND CANADIAN.

THURSDAY, 2ND JUNE:—MORNING, 10.30 TO 12.

Examiners, ... { P. T. LAFLEUR, M.A.; REV. PRINCIPAL ADAMS, D.C.L.; REV. R. HEWTON, M.A.; REV. J. HEPBURN, M.A.; JOHN L. DAY, B.A.

(Not more than *two* questions from each division are to be answered. Answers are to be exact and short.)

I.

1. Which two governors of Canada, under French rule, specially distinguished themselves for bravery and ability? Write a *brief* account, with dates, of the governorship of either one.

2. Give a short account, with dates, of: Maisonneuve, Montcalm, Lord Dorchester, William Lyon Mackenzie, Wolfe.

3. Explain *briefly*:—Feudal Tenure, Seigniorial Tenure, Crown lands, Family Compact, Washington Treaty.

II.

4. (*a*) Give a sketch of the form of government in Canada between the years 1791 and 1837; *or* (*b*) state, without detail, four important points in the British North America Act, and the names of four leading Canadians who took part in the preparing of it.

5. State, with their dates, (*a*) the great events of the reign of Edward III; *or* (*b*) of the reign of Queen Anne.

6. Explain *briefly*: the Great Charter, Treaty of Utrecht, Long Parliament, Gunpowder Plot.

III.

7. Who were the following; Simon de Montfort, Wycliffe, Wolsey, Llewellyn, Wallace, Disraeli, Wilkes, Burleigh?

8. State, with their dates, the leading events in (*a*), the Indian Mutiny; *or* (*b*), the Crimean War.

9. Give, with their dates, six battles which may be considered as turning-points in English history; and state, in connection with any *one*, (*a*) the causes leading to it, (*b*) the result of the fight, (*c*) the commanders on both sides.

NEW TESTAMENT HISTORY.

MONDAY, JUNE 6TH:—MORNING, 10 TO 11.

Examiners,..... { REV. R. HEWTON, M.A.
REV. PRINCIPAL ADAMS, D.C.L.
P. T. LAFLEUR, M.A.
REV. J. HEPBURN, M.A.
JOHN L. DAY, B.A.

I. Who were (1) Caiaphas, (2) Pilate, (3) Malchus, (4) Lazarus, (5) Bartimaeus, (6) Mary Magdalene, (7) Agrippa, (8) Joseph of Arimathea, (9) Dorcas, (10) Lydia?

II. Write out in full five of the Beatitudes.

III. Give a short account of the first miracle performed by our Lord.

IV. Name an event in connection with (1) Bethlehem, (2) Nazareth, (3) Jordan, (4) Bethany, (5) Sea of Galilee, (6) Damascus, (7) Emmaus, (8) Antioch, (9) Lystra, (10) Melita.

V. Describe two events connected with St. Paul's first missionary journey.

VI. Give a short account of the conversion of St. Paul.

VII. Give an account of the causes which led to the death of John the Baptist.

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EXAMINATIONS FOR ASSOCIATE IN ARTS AND SCHOOL CERTIFICATE.

OPTIONAL SUBJECTS.

LATIN.

FRIDAY, JUNE 3RD:—MORNING, 9 TO 12.

Examiners, ... { REV. GEORGE CORNISH, LL.D.
A. JUDSON EATON, PH.D.
REV. G. ABBOTT SMITH, B.A.

LATIN GRAMMAR AND COMPOSITION.

1. Decline *ager**, *pes*, *opus*; the pronouns *tu*, *ipse*. Decline together, *equus niger*, *Cicero consul*, *domus mea*.

2. Write down the Nom. Sing. of *ossis*, *pectore*, *noctis*, *itineris*; the Gen. Sing. of *filius*; the Dat. Pl. of *deus*; and the Voc. Sing. of *meus*.

3. Compare *altus*, *prudens*, *acer*, *facilis*, *multus*, *male*, *pulchre*.

4. Inflect *sum* in the Imperative Pres. and Fut.; *amo*, *dico*, and *fero* in the Fut. Indic. and Pres. Subj. Act.; and *prosum* in the Imperf. Indic.

5. Give the Principal Parts of *augeo*, *cresco*, *tego*, *tollo*, *obliviscor*.

6. Translate (*a*) *agricola a regina laudatur*, and (*b*) *agricola reginae verbis laudatur*. Why is the preposition *a* used with *regina* and not with *verbis*?

7. How is *Separation* expressed in Latin? State the rule in full.

8. Name *five* deponent verbs, taking the Ablative; *one* taking the Genitive or Ablative.

9. Translate into Latin:—(1) five, eight, eleven, fifteen, twenty-two, sixty; fourth, ninth. (2) Who is more eloquent (*eloquentior*) than Cicero? (3) The farmer ploughs (*aro*) his field with great care (*cura*). (4) Is it written? does he send? will he go? (5) These mountains are very high.

10. Translate into Latin:—(1) The bravest of all were the Belgae, who were the farthest away from the Roman Province. (2) Orgetorix prevailed on the Helvetii to go forth from their borders. (3) Peace and friendship were established with the neighboring States. (4) Informers disclosed this conspiracy to the Helvetii. (5) By burning all their dwellings they took away the hope of return.

* In the answers to questions 1 to 5, you are requested to mark by the usual sign all *long* vowels.

VIRGIL, AENEID, BK. I.

1. Translate:—

Aeneas scopulum interea conscendit, et omnem
Prospectum late *pelago* petit; Anthea si quem
Iactatum *vento* videat, Phrygiasque biremes,
Aut Capyn, aut celsis in puppibus arma Caïci.
Navem in *conspectu* nullam, tres *littore* cervos
Prospicit errantes; hos tota armenta sequuntur
A tergo, et longum per valles pascitur agmen.
Constitit hic, arcumque manu celeresque sagittas
Corripuit; fidus quae tela gerebat Achates;
Ductoresque ipsos primum, capita alta ferentes
Cornibus arboreis, sternit; tum vulgus et omnem
Miscet agens telis nemora inter frondea turbam.

(*b*) Lucus in urbe fuit media, laetissimus *umbra*,
Quo *primum*, iactati undis et turbine, Poeni
Effodere loco signum, quod regia Juno
Monstrârat, caput acris equi; sic nam *fore* bello
Egregi am, et facilem *victu* per saecula gentem.
Hic templum Junoni ingens Sidonia Dido
Condebat donis *opulentum* et numine divae:
Aerea cui gradibus surgebant limina nexaeque
Aere trabes, foribus cardo stridebat aënis.
Hoc primum in luco nova res *oblata* timorem
Leniit, hic primum Aeneas sperare salutem
Ausus, et affiictis melius *confidere* rebus.

(*a*) Parse all italicized words, giving principal parts of the verbs, and accounting for the cases of the nouns.

(*b*) Derive conscendit, frondea, egregiam, aerea.

CAESAR, GALLIC WAR, BK. I.

Translate:—

1. *Hoc proelio facto*, reliquas copias Helvetiorum ut consequi posset *pontem in Ararefaciendum* curat, atque ita exercitum transducit. Helvetii repentino eius adventu commoti, cum id, quod ipsi *diebus viginti* aegerrime confecerant, ut flumen transirent, uno illum die fecisse intelligerent, legatos ad eum mittunt: Cuius legationis Divico princeps fuit, qui bello Cassiano dux Helvetiorum fuerat. Is ita cum Caesare agit: "Si pacem Populus Romanus cum Helvetiis faceret, in eam partem ituros, atque ibi futuros Helvetios ubi eos Caesar constituisset atqui esse voluisset: sin bello persequi perseveraret, reminisceretur et veteris incommodi Populi Romani et pristinae virtutis Helvetiorum."

(*a*) Explain the grammatical construction of the phrases in italics, and parse fully *commoti*, *id*, *ituros*, *voluisset*, *persequi*, *incommodi*.

(*b*) Write out in the form of direct narration the portion in inverted commas.

2. Ita ancipiti proelio diu atque acriter pugnatum est. Diutius quum nostrorum impetus sustinere non possent, alteri se, ut coeperant, in montem receperunt; alteri ad impedimenta et carros suos se contulerunt. Nam hoc toto proelio, quum ab horâ septimâ ad vesperum pugnatum sit, adversum hostem videre nemo potuit. Ad multam noctem etiam ad impedimenta pugnatum est, propterea quod pro vallo carros obiecerat, et e loco superiore in nostros venientes tela coniiciebant, et nonnulli, inter carros rotasque, mataras ac tragulas subiiciebant nostrosque vulnerabant.

(*a*) What time of day, according to our reckoning, was *septimahora*?

(*b*) Derive *ancipiti*, *impedimenta*.

GREEK.

FRIDAY, JUNE 3RD :—AFTERNOON, 2 TO 5.

Examiners, ... { REV. GEORGE CORNISH, LL.D.
A. JUDSON EATON, M.A., Ph.D.
REV. G. ABBOTT SMITH, B.A.

1. Translate, Homer, Iliad, Book IV :—

(*a*) Ὡς δ' ὅτε τίς τ' ἐλέφαντα γυνὴ φοίνικι μίηνῃ
Μῃονὶς ἠὲ Κάειρα παρήϊον ἔμμεναι ἵπποις·
Κεῖται δ' ἐν θαλάμῳ, πολέες τέ μιν ἠρήσαντο
Ἱππῆες φορέειν· βασιλῆϊ δὲ κεῖται ἄγαλμα,
Ἀμφότερον, κόσμος θ' ἵππῳ ἐλατῆρί τε κῦδος·
Τοῖοί τοι, Μενέλαε, μιάνθην αἵματι μηροὶ
Εὐφυέες κνῆμαί τ' ἰδὲ σφυρὰ σάλ' ὑπένερθεν.

(*b*) Οἱ δ' ὅτε δὴ ῥ' ἐς χῶρον ἔνα ξυνιόντες ἵκοντο,
Σύν ῥ' ἔβαλον ῥινούς σὺν δ' ἔγχεα καὶ μένε' ἀνδρῶν
Χαλκεοθωρήκων· ἀτὰρ ἀσπίδες ὁμφαλόεσσαι
Ἔπληντ' ἀλλήλῃσι, πολὺς δ' ὀρυμαγδὸς ὀρώρει.
Ἔνθα δ' ἅμ' οἰμωγή τε καὶ εὐχωλὴ πέλεν ἀνδρῶν
Ὀλλύντων τε καὶ ὀλλυμένων· ῥέε δ' αἵματι γαῖα.
Ὡς δ' ὅτε χείμαῤῥοι ποταμοὶ κατ' ὄρεσφι ῥέοντες
Ἐς μισγάγκειαν ξυμβάλλετον ὄβριμον ὕδωρ
Κρουνῶν ἐκ μεγάλων, κοίλης ἔντοσθε χαράδρης·
Τῶν δέ τε τηλόσε δοῦπον ἐν οὔρεσιν ἔκλυε ποιμήν·
Ὡς τῶν μισγομένων γένετο ἰαχή τε πόνος τε.

2. (*a*) Point out Epic forms in the above extracts and give the equivalent forms in Attic. (*b*) Give the name and scale of the metre, and scan the last four verses of either ext., noting any metrical peculiarities. (*c*) Write a note on the Digamma.

3. (*a*) Give as accurately as you can the meaning and derivation of the following epithets:—Βοῶπις, ἀγκυλομήτης, ἀμύμων, ἀβλῆτα, ἀγελείη. παναίολος. (*b*) Parse carefully the following:—ῥεσί, κῆρι, διαπέρσαι, ἤιξεν, ἄροιο, ῥίγησεν, χάνοι, πάγη, ἔδυν, ψεύδεσσι, ὄθεν, ἰφι.

4. Translate, Xenophon, Anabasis, Book I:—

(*c*) Ἐγὼ γὰρ ὀκνοίην μὲν ἂν εἰς τὰ πλοῖα ἐμβαίνειν ἃ ἡμῖν δοίη, μὴ ἡμᾶς αὐταις ταῖς τριήρεσι καταδύῃ· φοβοίμην δ' ἄν τῷ ἡγεμόνι ᾧ δοίη ἕπεσθαι, μὴ ἡμᾶς ἀγάγῃ ὅθεν οὐχ οἷόν τε ἔσται ἐξελθεῖν· βουλοίμην δ' ἂν ἄκοντος ἀπιὼν Κύρου λαθεῖν αὐτὸν ἀπελθών. ὃ οὐ δυνατόν ἐστιν. Ἀλλ' ἐγώ φημι ταῦτα μὴν φλυαρίας εἶναι· δοκεῖ δέ μοι ἀνδρας ἐλθόντας πρὸς Κῦρον, οἵτινες ἐπιτήδειοι, σὺν Κλεάρχῳ ἐρωτᾶν ἐκεῖνον, τί βούλεται ἡμῖν χρῆσθαι. καὶ ἐὰν ἡ πρᾶξις ᾖ παραπλησία οἵαπερ καὶ πρόσθεν ἐχρῆτο τοῖς ξένοις, ἕπεσθαι καὶ ἡμᾶς, καὶ μὴ κακίους εἶναι τῶν πρόσθεν τούτῳ συναναβάντων.

(*d*) Καὶ τὸ μὲν τὰ μεγάλα νικᾶν τοὺς φίλους εὖ ποιοῦντα οὐδὲν θαυμαστόν, ἐπειδή γε καὶ δυνατώτερος ἦν· τὸ δὲ τῷ ἐπιμελείᾳ περιεῖναι τῶν φίλων καὶ τῷ προθυμεῖσθαι χαρίζεσθαι, ταῦτα ἐμοιγε μᾶλλον δοκεῖ ἀγαστὰ εἶναι. Κῦρος γὰρ ἔπεμπε βίκους οἴνου ἡμιδεεῖς πολλάκις, ὁπότε πάνυ ἡδὺν λάβοι, λέγων ὅτι οὔπω δὴ πολλοῦ χρόνου τούτου ἡδίονι οἴνῳ ἐπιτύχοι· τοῦτον οὖν σοὶ ἔπεμψε καὶ δεῖταί σου τήμερον τοῦτον ἐπιεῖν σὺν οἷς μάλιστα φιλεῖς. Πολλάκις δὲ χῆνας ἡμιβρώτους ἔπεμτε καὶ ἄρτων ἡμίσεα καὶ ἄλλα τοιαῦτα, ἐπιλέγειν κελεύων τὸν φέροντα· Τούτοις ἥσθη Κῦρος· βούλεται οὖν καὶ σὲ τοῦτων γεύσασθαι.

5. (*a*) In ext. (*a*) explain the following usages: (1) *αὐταῖς ταῖς τριήρεσι.* (How would you express this in Latin?) (2) *ᾧ δοίη.* (3) *ἀπιών.* (*b*) In ext. (*d*). (4) Show the grammatical construction of the first line, pointing out the subject of *νικᾶν.* (5) Also show the construction of the clause *τὸ δὲ * * * χαρίζεσθαι.* (6) *ἔπεμπε*, give the import of the *tense* and in *λάβοι* of both *tense* and *mood.*

6. Parse the following verbs, and give the *Pres. Inf.* of each.—*ἑλῶντα, εἰσῆεσαν, παρῆνει, προσεκύνησαν, κατακεκόψεσθαι, ἵεντο, ἦγον, πείσομαι, ἐτετίμητο, ὑπισχνῇ, ἐξῆχθη, ἀπεδείχθη.*

7. State as accurately as you can the force of the prepositions in the following expressions:—(*a*) *ἀπὸ τούτων τῶν χρημάτων.* (*b*) *ἀποπέμπει ἐπὶ τὴν ἀρχήν.* (*c*) *ἔσται ἐπὶ τῷ ἀδελφῷ.* (*d*) *ἀφικνεῖτο ἡαρὰ βασιλέως πρὸς αὐτόν.* (*e*) *ἐκ βασιλέως δεδομέναι.*

GREEK GRAMMAR.

1. How many declensions are there in Greek, and how are they characterized and distinguished?

2. Decline *χώρα, ἄνθρωπος, πόλις, δῶρον, νύξ*; the pronouns *ἔγω, σύ, οὗτος*.

3. How are the comparative and superlative of adjectives in regular comparison formed? Compare *σόφος, κοῦφος, ἡδύς, ἀγαθος*.

4. Inflect *εἰμί* and *εἶμι* in the present indicative and subjunctive; *πράσσω* in the present indicative middle; *λείπω* in the second aorist, indicative, subjunctive, and optative of the active voice.

5. Write down the principal parts of *λύω, λείπω, φαίνω, δίδωμι, στέλλω*.

6. Express in Greek: *Cyrus was a brave general* (στρατηγος); *he led* (ἄγω) *the horse into the river* (ποταμός); *the gifts* (δῶρον) *were beautiful; he will send aid* (βοήθεια) *to Xerxes*; *know thyself*.

FRENCH.

Examiners, ... { P. J. DAREY, M.A., B.C.L., LL.D., Officier d'Académie. / REV. J. L. MORIN, M.A.

(N.B.) Let the candidates write the Dictation, the first part, and the second part on *three* different papers.

I.

1. Translate into English:—

Un jour je voyageais (*a*) en Calabre, c'est un pays de méchantes (*b*) gens, et en veulent (*c*) surtout aux Français; de vous dire pourquoi, cela (*d*) serait long; suffit qu'ils vous haïssent à mort, et qu'on (*e*) passe fort mal son temps lorsqu'on tombe entre leurs mains. J'avais pour compagnon un jeune homme d'une figure....comme ce monsieur que nous vîmes à Rincy; vous en souvenez-vous? et mieux encore peut-être, je ne dis pas cela pour vous intéresser, mais parce que c'est la vérité. Dans ces montagnes les chemins sont des précipices, nos chevaux marchaient avec beaucoup de peine; mon camarade allant devant, un sentier qui lui parut (*f*) plus praticable et plus court nous égara. Ce fut ma faute; devais-je me fier à une tête de vingt ans?

PAUL-LOUIS COURIER.

(*a*) What is the tense of *voyageais?* Why?

(*b*) Why is *méchantes* in the feminine? Explain the rule of adjectives referring to *gens*.

(*c*) What do you call that expression *en veulent?* What are the *future* and *preterite definite* of that verb? Write them in full.

(*d*) Why is that pronoun *cela* used? Explain.

(*e*) To what does *on* refer? What is its etymology? What are the different ways to translate it into English?

(*f*) Write in full the Future and the Imperfect Indicative of that verb.

2. How are *he, she, they* followed by *who, whom, that* translated into French? Give four examples.

3. Write correctly the Past Participles of the following sentences:
Ils se sont *rencontré;* mais ils ne se sont pas *parlé.*
Cette femme chante bien, je l'ai *entendu* chanter.
C'est une belle chanson, je l'ai *entendu* chanter
Explain the rules fully.

II.

4. Translate into French:—
The taking of Antwerp had accustomed Philippe II to use those means which astonish the imagination of men: The refusals which he had met from Queen Elizabeth, the despair of reigning no longer over a country where, with his wife Mary, he had raised so many pious funeral piles, the jealousy which the first enterprises of the English navy excited in him, the exploits and discoveries of Drake, Davis and Frobisher, the need to take from Holland the only ally which remained faithful to her; in short, the mission that he thought to have received from heaven to fight heresy everywhere, caused him to equip a fleet which might fill both hemispheres with dismay.

5. Translate:—Where are you going? I am going to see whether the ice has entirely disappeared from the river and if the steamers are already in port. There are many new buildings in this city. Have you been well last winter? Yes, except a few colds and a bad hoarseness. How old are you?—Où irez-vous cet été? Nous irons passer quelques semaines à la campagne. J'espère que vous aurez beaucoup de plaisir. Nous y en avons toujours. Je vais à la pêche, en bateau et à la promenade. Aimez vous vos études? Oui, mais je n'aime pas beaucoup les examens. Vous n'êtes pas le seul de cette opinion.

Dictation (for the examiners only):—

Dès que le jour parut, toute la famille, à grand bruit, vint nous éveiller, comme nous l'avions recommandé. On apporte à manger, on sert un déjeuner fort propre, fort bon, je vous assure. Deux chapons en faisaient partie, dont il fallait, dit notre hôtesse, emporter l'un et manger l'autre. En les voyant je compris enfin le sens de ces tersible mots: *faut-il les tuer tous devx?* Et je vous crois, cousine, assez de pénétration pour deviner à présent ce que cela signifiait.

GERMAN.

TUESDAY, JUNE 7TH :—AFTERNOON, 3.30 TO 5.

Examiner,.....P. T. LAFLEUR, M.A.

1. Translate into English :—

(*a*) Tod und Schlaf, der Engel des Schlummers und des Todes, brüderlich umschlungen, durchwandelten die Erde. Es war Abend. Sie lagerten sich auf einem Hügel, nicht ferne von den Wohnungen der Menschen. Eine wehmüthige stille waltete rings umher, und die Abendglocke in fernen Dörflein verstummte. Still und schweigend, wie es ihre Weise ist sassen die beiden wohlthätigen Genien der Menschheit in traulicher Umarmung, und schon nahete die Nacht.

(*b*) Der Wandersmann kann der sterne nicht entbehren in der dunkeln Nacht; sie sind ihm die Führer seines Weges und leiten ihn, wann er sich verirret hat, wieder zu dem gesuchten Ziele. Ich will dich die Zahl und den gang dieser himmlischen Lichter lehren, dass du sicher einhergehest auf deinen Pfaden, wann ich nicht mehr dein Führer bin. Und bald will ich dir noch andere Sterne zeigen; du kannst sie nicht sehen mit dem Ange des Leibes, aber im Geiste sollst du sie schauen, und sie sollen dich sicher hinüberleiten zur himmlischen Heimath.

(*c*) Ich tret' in die Burgkapelle
Und suche des Ahnherrn Grab;
Dort ist's, dort hängt vom Pfeiler
Das alte Gewaffen herab.

Noch lesen umflort die Augen
Die Züge der Inschrift nicht,
Wie hell durch die bunten Scheiben
Das Licht darüber auch bricht.

2. Decline (sing. and plu.) :—Dieser gute Mann, mein kleines Haus, jenes grosse Auge.

3. Give the principal parts of :—verlieren, scheiden, lassen, singen, werfen, schlagen.

4. Explain, with examples, the effect on the order of the words in an affirmative clause of :—(*a*) a relative pronoun, (*b*) an adverb, at the beginning of that clause.

5. What prepositions may govern more than one case in German? Give the force of the preposition in each case, and illustrate with an example.

6. Translate into German:—

I. I cannot go for a walk with you this morning, for I have still much work to do.

II. Where has your brother bought his new dictionary? He has not bought it; it has been given to him by an old friend.

III. The weather is cold; it is raining; you must not go out; stay at home.

IV. Does not the stranger hope to receive letters to-day? No, it is too late.

V. If my cousins come to-morrow, we shall go into the country together.

VI. The boy told his father the truth, and the latter did not punish him.

GEOMETRY.

THURSDAY, JUNE 2ND:—AFTERNOON, 2 TO 4.

Examiners,..... { REV. PRINCIPAL ADAMS, D.C.L.
G. H. CHANDLER, M.A.
W. MORRIS, LL.B.
H. M. TORY, B.A.

Answer six of the eight questions, of which 4 or 5 must be one. Answer concisely; avoid repetitions. Ordinary symbols and abbreviations may be used.

1. Two equal and parallel straight lines are joined towards the same parts by two other straight lines: Prove that these shall also be equal and parallel. (*a*) If the opposite sides of a quadrilateral are equal, prove that it is a parallelogram. (*b*) If the opposite angles of a quadrilateral are equal, prove that it is a parallelogram.

2. If in two triangles two angles and the side between them are respectively equal, then the triangles shall be equal in all respects. Prove this.

(*a*) Also prove that if from any point in the bisector of an angle perpendiculars are let fall on the sides containing the angle, these perpendiculars shall be equal.

3. To a given straight line to apply a parallelogram containing a given angle and equal in area to a given triangle.

(*a*) Show how to obtain a rectangle on one of the sides of a regular hexagon equivalent in area to the hexagon.

4. The square on $A\,B$ divided at C is equal to the squares on $A\,C$, $C\,B$ together with twice the rectangle $A\,C$, $C\,B$.

(*a*) When is this rectangle greatest, and why?

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5. To find in the straight line AB a point H so that rectangle AB, BH = square on AH.

(a) Also shew that by producing BA another such point may be found, but that no such point exists in AB produced.

6. No two chords of a circle can possibly bisect one another unless they are diameters.

(a) No two circles can cut in more than two points.

(b) None but rectangular parallelograms can have their corners on a circle.

7. From an external point to draw a straight line to touch a circle.

(a) If two such touching lines be drawn, shew that they are equal in length.

8. What are: (a) angle in a segment, (b) angle of a segment, (c) alternate angles, (d) alternate segment?

(e) Prove that the angle between the chord of a circle and a straight line touching the circle at one of its ends is equal to the angle in the alternate segment.

ALGEBRA.

WEDNESDAY, JUNE 1ST:—AFTERNOON, 2 TO 3.30.

Examiners, ... { REV. PRINCIPAL ADAMS, D.C.L.
G. H. CHANDLER, M.A.
W. MORRIS, LL.B.
H. M. TORY, B.A.

1. Reduce to its lowest terms

$$\frac{x^2+9x+20}{x^3+7x^2+14x+8}$$

2. Simplify $\left(\frac{x}{x-y} - \frac{y}{x+y}\right) \div \left(\frac{x^2}{x^2+y^2} + \frac{y^2}{x^2-y^2}\right)$

3. Find factors of x^2-3x-4, $12x^2+5x-3$, x^2-5x+4, $16x^4-81$, $(3x-2)^2-(x-3)^2$.

Solve the equations

(a) $\frac{3x+1}{2x-1} - \frac{4x-2}{3x-2} = \frac{1}{6}$

(b) $x(x-a)+x(x-b) = 2(x-a)(x-b)$

5. Prove $a^0 = 1$, $a^{-p} = \frac{1}{a^p}$,

and simplify $\frac{1-\sqrt{3}}{1+\sqrt{3}}$

6. Solve $xy = a^2$
$x - y = b$

7. There is a certain fraction, of which if its numerator be increased by 1, and the denominator be diminished by 1, the value will be 1; if the numerator be increased by the denominator, and the denominator be decreased by the numerator, the value will be 4; find it.

TRIGONOMETRY.

THURSDAY, JUNE 2ND:—AFTERNOON, 3.30 TO 5.

Examiners, ... { REV. PRINCIPAL ADAMS, D.C.L.
G. H. CHANDLER, M.A.
W. MORRIS, LL.B.
H. M. TORY, B.A.

1. Express in degrees and decimals of a degree the unit of the circular measurement of angles.

2. Considering only positive angles, when is the sine of an angle + and when —? When is the cosine + and when —? What limits of value has the sine? what the tangent?

3. The tangent of an angle is given (say $2\frac{1}{2}$); find the sine and the cosine.

4. Find the sine, cosine, etc., of 45° and of 135°.

5. Show that

(1) $\dfrac{\sec\theta}{\operatorname{cosec}\theta} + \dfrac{\operatorname{cosec}\theta}{\sec\theta} = \sec\theta \operatorname{cosec}\theta,$

(2) $\tan^2\theta - \sin^2\theta = \tan^2\theta \sin^2\theta,$

(3) $\cos^4\theta - \sin^4\theta = \cos^2\theta - \sin^2\theta.$

6. Prove that

(1) $\sin(A-B) = \sin A \cos B - \cos A \sin B,$

(2) $\cos 2A = 2\cos^2 A - 1,$

(3) $\dfrac{\sin A - \sin B}{\cos A + \cos B} = \tan\frac{1}{2}(A-B),$

(4) $\sin(180^0 - A) = \sin A, \cos(180^0 - A) = -\cos A.$

ENGLISH LANGUAGE.

MEIKLEJOHN, *English Language*, Parts I, II, III; TRENCH, *Study of Words*.

WEDNESDAY, JUNE 8TH:—3.30 TO 5.30 P.M.

Examiners, ... { JOHN L. DAY, B.A.; REV. PRINCIPAL ADAMS, D.C.L.; P. T. LAFLEUR, M.A.; REV. J. HEPBURN, M.A.; REV. R. HEWTON, M.A.

Candidates will answer any two questions from Division I; one question from Division II; the first question and one other from each of the Divisions III and IV. The Analysis (V) must be attempted by all.

I.

1. To what family of languages does English belong? Tabulate the languages with which it is connected in origin, and say where each is, or was, spoken.

2. (*a*) Give doublets for the following (with etymology), and arrange them in columns headed respectively "Latin at first-hand" and "Latin at second-hand:" parcel, fabric, coy, hospital, conceit, caitiff, persecute. (*b*) Write a note on English dialects.

3. An account of the grammar of Later Middle English (circa 1350).

II.

1. Name the periods into which the English Language may be divided, and characterize each.

2. (*a*) Indicate (1) the origin and (2) the period of introduction of the following: trout, scutcheon, varlet, street, glen, pungent, sue, holm, whisky, clerk. (*b*) Remark upon the foreign elements in the English vocabulary.

3. (*a*) The general character of the Norman-French contributions. Support your remarks with illustration. (*b*) In what way did Norman words gain admission into the English Language?

III.

1. Instance words (1) contributed by the Church and the Schoolmen, (2) made from proper names (mythological), (3) which contain record of customs, (4) which have a group-kinship, (5) which imply moral perversity.

2. (*a*) What evidences are there in language of man's fall? In what connection does Trench introduce this subject? (*b*) "The frivolity of a nation finds utterance in its peculiar employment of words." Show that this is true.

3. "There are vast harvests of historic lore garnered often in single words." Discuss this statement.

4. The substance of Trench's remarks on the origin of language.

IV.

1. Notes on: Squirrel, virtue, mob, gnostic, idiot, Unitarians, surname, idolatry, classical, rossignol.

2. (*a*) "Poetry has been embodied in the names of places." Explain fully, with illustrations. (*b*) Distinguish arrogant, presumptuous, insolent; opposite, contrary.

3. Treat briefly the following subjects: (*a*) The naturalization of words, (*b*) the deterioration of words, (*c*) the desynonymizing process, (*d*) deficiencies of language, (*e*) National characteristics in language.

V.

Analysis:

Satisfied with having produced in my bosom the intended effect, he seemed to chuckle in secret over the sting he had inflicted, and was characteristically disregardful of the public applause which the success of his witty endeavors might have so easily elicited.

Edgar Poe.

ENGLISH LITERATURE.

MONDAY, 6TH JUNE:—AFTERNOON, 2 TO 3.30.

Examiners, ... { REV. PRINCIPAL ADAMS, D.C.L.; P. T. LAFLEUR, M.A.; REV. J. HEPBURN, M.A.; REV. R. HEWTON, M.A.; JOHN L. DAY, B.A. }

(Not more than two questions are to be answered from each division).

I

1. For what are { Wyclif, Chaucer, Spenser } famous in literature; give the dates of their lives, the chief spheres of their activity, and name one other writer, contemporary with each, with the name of one of his works.

2. In reference to Shakespeare, give the names of two of his best *poems*, and six of his best plays, stating whether the latter are tragedy, comedy, or historical. Name four of his contemporary dramatists with one work of each. Give names of the sovereigns under whom English Literature seems to have most flourished. Name four poets of the first order living in 1840.

3. Name of author, class of work, *one fact* about each in case of following works:—

Lycidas, Hudibras, Hind and Panther,
Leviathan, Essay on Criticism,
Castle of Indolence, the Castaway,
The Parish Register, Rob Roy,
Christabel, Manfred, Hyperion,
In Memoriam, Esmond, Sohrab and Rustum.

and two chief works of

John Bunyan and Daniel Defoe.

II. Julius Caesar.

4. State briefly who were the following persons and what part they take in the play:—

Marcus Antonius, Casca, Decius Brutus, Cinna, Portia.

5. Explain with concise notes, and finish the quotation where incomplete:

(*a*) "To *stale* with ordinary oaths my love."
(*b*) "But ere we could *arrive* the point proposed."
(*c*) A man of such a feeble *temper*.
(*d*) What you would work me to, I have some *aim*.
(*e*) Caesar doth *bear me hard*.
(*f*) *We* were *two lions* littered in one day.
(*g*) "These *couchings*."
(*h*) Crimson'd in thy *lethe*.

Name the speaker in each case.

6. What are the allusions conveyed or references made in the following words:—

Até, Caesar's angel,
Pompey's statue,
Plutus' mine, Philippi,
'This was a man,' 'Havock,'
'Lupercal,' 'dint,' Tyber,'
'75 drachmas,' 'a property.'

III. Lady of the Lake.

7. Explain the allusions and give notes on the following:—

(*a*) 'Disturbed the heights of *Uam-var*.'
(*b*) 'Of *Ferragus* or *Ascabart*.'
(*c*) 'Poured forth the glory of the *Graeme*.'
(*d*) 'This harp which *erst* Saint *Modan* swayed.'
(*e*) 'Ere *Douglasses* to ruin driven.'
(*f*) '*Malise*, what ho! his *henchman* came.'

8. Annotate concisely the following .—

(1) 'Beheld the River Dæmon rise.'

(2) 'The fatal *Ben-shie's* boding scream.'

(3) 'Inch-Cailliach.'

(4) 'The dismal Coronach resound.'

(5) Beal'-nam-Bo.

(6) 'The *Gael* of plain and river *heir*.'

(7) What birds are *mavis* and *merle?*

9. When and how are the following introduced into the Poem:
The song 'Soldier, rest.'
'Boat Song.'
'Coronach.'
'Hymn to the Virgin.'
'The ballad of Alice Brand.'

Make one remark about each, *or* quote ten lines from *any one* of them.

———

HISTORY.

TUESDAY, JUNE 7TH:—AFTERNOON, 2 TO 3.30.

Examiners, ... { P. T. LAFLEUR, M.A.; REV. PRINCIPAL ADAMS, D.C.L.; REV. J. HEPBURN, M.A.; REV. R. HEWTON, M.A.; JOHN L. DAY, B.A.

(N.B.—Not more than *two* questions are to be answered from each division.)

I.

1. Explain: Oligarchy, Helot, Eupatridae, Plebeians, Agrarian Laws, Dictator.

2. Give a short account of:—Pericles, Epaminondas, Scipio Africanus, Justinian, Attila.

3. Give, in outline, an account, (*a*) of the expedition of Xerxes against Greece; *or* (*b*) of the Second Punic War. Give dates in either case.

II.

4. State, in their order, the different forms of government that in ancient times prevailed in (*a*) Athens; *or* (*b*) Rome.

5. Give the names of the leading barbarous races that invaded Europe, and caused the downfall of Rome. Trace the general course of conquest of any one.

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6. Write brief notes on : the faith and religious duties of the Mahometans, Troubadours, the Boy Crusade, Auto da Fe, Les Gueux, the Partition of Poland.

III.

7. State the principal causes, as given in Collier's "Great Events," that led to *either* The Thirty Years' War, *or* the French Revolution.

8. Who were the following:—Godfrey of Bouillon, Pizarro, John Calvin, Ignatius Loyola, Turenne, Victor-Emmanuel?

9. Explain briefly the method and policy of *either* Charlemagne *or* Richelieu.

GEOGRAPHY.

MONDAY, JUNE 6TH:—AFTERNOON, 3.30 TO 5.

Examiners, ... { REV. J. HEPBURN, M.A.; REV. PRINCIPAL ADAMS, D.C.L.; P. T. LAFLEUR, M.A.; REV. R. HEWTON, M.A.; JOHN L. DAY, B.A.

(Not more than two questions are to be answered from each division.)

I.

1. Describe as fully as possible the *plants* of the earth according to the zones in which they are found.

2. Explain in a simple manner the *Seasons* and their causes.

3. Define or explain Canyon, polyp, cyclone, Soudan, Isthmus, axis, glacier, solstice, lichen, ecliptic.

II.

1. Draw a map of *North America*, tracing chief rivers, mountains, lakes, islands, etc.

2. Give the names of the largest *cities of Scotland*, and also the *lakes* and *capes*.

3. Give the divisions of Australasia, and state what you know of its development during the last fifty years.

I.

1. Describe the climate of *Florida* and *Colorado*.

2. Explain how the destruction of our forests affects our climate.

3. What are the products of *Canada*, *Brazil*, *France*?

ZOOLOGY.

TUESDAY, JUNE 7TH, A.M., 1½ HOUR.

Examiners,..... { J. W. DAWSON, LL.D.
W. E. DEEKS, B.A.

1. State shortly the differences between animals and plants.

2. Name and state the distinctive marks of the leading divisions of animals.

3. Mention a few genera of (*a*) Protozoa, or (*b*) Coelenterata, and describe one genus.

4. Describe any typical Echinoderm.

5. Describe the external parts of an Insect.

6. Describe the structures of a Lamellibranchiate Mollusk.

7. How are circulation, respiration and locomotion performed in fishes?

8. Refer the following to their places in the classification :—Opossum, Whale, Eagle, Perch, Lobster, Snail, Butterfly, Sponge, Coral.

N.B.—The candidate will select and answer any *six* of the above questions.

BOTANY.

TUESDAY, JUNE 7TH :—3.30 TO 5 P.M.

Examiner,..... D. P. PENHALLOW, B.Sc.

Group I.

1. Explain the structure of an angio-spermous pistil, and show the function of each part.

2. Draw plans of flowers showing the types $\frac{3}{3}$ and $\frac{5}{5}$.

3. Explain what is meant by the term placentation, and show how many kinds are distinguished.

4. Explain the manner in which pollen is transferred from the stamens, and how it reaches the ovules.

Group II.

5. Explain the function and distribution of Chorophyll.

6. Define the terms cell wall, protoplasm, nucleus.

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7. What do you understand by the terms epidermal tissue, fundamental tissue, vascular tissue? Give an illustration of each.

8. Explain the respiration of plants.

Group III.

9. What is the nature of a prothallus, what are its functions and where is it found?

10. In a common moss explain the structure of the reproductive organs and show what they produce.

11. Give a description of a lichen, and show their general habit of growth.

12. Describe fully the plant given.

The Candidate will answer six questions including number twelve, selecting two from each group.

Examiners will please supply any common WILD flower, and take particular pains that ALL PARTS OF THE PLANT are present.

ELEMENTARY CHEMISTRY.

WEDNESDAY, APRIL 8TH :—AFTERNOON, 1½ HOUR.

Examiners, ... { B. J. HARRINGTON, B.A., PH.D. / NEVIL NORTON EVANS, M.A.SC.

NOTE.—*Answer two questions only from each group.*

I.

1. What are chemical changes? Give several examples.

2. Give briefly the preparation and properties (*a*) of Hydrogen, (*b*) of Chlorine.

3. Describe carefully the manufacture of Sulphuric Acid.

II.

1. State the law of multiple proportions and give illustrations.

2. Give a drawing of the apparatus that you would employ for preparing distilled Water.

3. How maydine be prepared? What are its properties?

III.

1. What do you understand by a theory as distinguished from an hypothesis? Explain the atomic theory.

2. Illustrate by means of equations the changes that take place (*a*) when Common Salt is heated with Sulphuric Acid, (*b*) when Caustic Potash is brought into contact with Carbon Dioxide.

3. How is Carbon Dioxide prepared? Give its properties. Why will it not burn?

PHYSIOLOGY AND HYGIENE.

TUESDAY, JUNE 7th, A.M., 1½ HOUR.

Examiners, ... { J. WM. DAWSON, LL.D. / W. E. DEEKS, B.A.

NOTE.—Candidates are required to answer three (3) questions only from each group.

Group A.

1. Describe briefly the functions of bone, cartilage, ligament, synovial membrane, muscle and tendon. Give example of each from the upper extremity.

2. Describe briefly the circulatory apparatus, and trace the course of the blood through the different parts.

3. State the functions of the different parts of the nervous system.

4. Name the component parts of the blood, and state the changes it undergoes (*a*) in the lungs, (*b*) by the products of digestion.

Group B.

5. What impurities in water are to be carefully guarded against? Name some of the methods of purifying it.

6. What evil effects in youth are likely to arise from the use of alcohol *or* tobacco?

7. Name some of the principal factors essential to good health.

8. In a case of drowning, how would you proceed to restore consciousness?

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PHYSICS.

THURSDAY, JUNE 9TH :—9 TO 10.30 A.M.

Examiners, ... { REV. PRINCIPAL ADAMS, D.C.L.
JOHN COX, M.A.

1. Explain the meaning of *porous*, *ductile*, *viscous*, and briefly describe an instance or experiment illustrating each of these terms.

2. Two narrow open glass tubes are held upright with their ends dipping, one into mercury, the other into water. Draw a sketch of the tubes with the liquids inside and outside of them.

3. Explain how it is that an iron ship can float in water.

4. A body weighs 250 grammes in air, 40 grammes in water and 50 grammes in spirit. Find the specific gravity of the body and of spirit.

5. How does the volume of a quantity of air enclosed in a tube change, first, when you double its pressure, second, when you raise its temperature from 0° C to 100° C.?

6. A stone is dropped over a precipice 400 feet high. How soon will it reach the bottom, and how fast will it be going at the bottom ?

7. A train weighing 160 tons is pulled by an engine with a force that would support 1 ton. Neglecting friction, how soon will it acquire a speed of 30 miles an hour ?
Calculate the *Momentum* and the *Energy* of the train at this speed.

8. A weight of 12 kilogrammes is hung up by a string 5 feet long. A thread is attached to the weight and pulled horizontally till the weight is drawn 3 feet away from the vertical line through the point of suspension. What is the tension of the thread ?

9. Describe the construction of a mercury thermometer. What temperature centigrade corresponds to 95° Fahrenheit ?

10. A kilogramme of ice at 0° centigrade is dropped into a kilogramme of water at 100° C. A thermometer is placed in a hole in the ice, and another in the water. How will each behave? And what will be the final temperature ?

11. Explain why (*a*) a piece of ivory is generally let into the handle of a silver teapot, (*b*) a woollen "cosy" is placed over it, (*c*) a draught of even warm air will feel cold, (*d*) and much colder if the skin be first wetted. What is the cause of dew ?

GEOMETRICAL AND FREEHAND DRAWING.

WEDNESDAY, JUNE 8TH :—MORNING.

Examiner,.....C. H. McLEOD.

1. Erect a perpendicular, two inches in length, from the end of a line three inches long.

2. Two straight lines meet an angle of 45°. Describe a circle of 1.2 in. radius touching the lines.

3. About a circle of 1.5 in. radius describe a regular pentagon.

4. Draw a portion of the involute of a circle of 2 in. diameter.

5. Sketch an example of Greek ornament.

6. Represent the appearance of a cylinder when placed at the level of the eye and with the axis nearly perpendicular to the line of sight.

7. Make a freehand copy, slightly enlarged, of the ornament (wrought iron panel) before you.

8. Make a freehand drawing of the objects before you as they appear from your point of view.

(*a*) A skeleton cube.

(*b*) A double cone.

NOTE.—In the problems 5, 6, 7 and 8 do not use any instrument whatever; these questions are for strictly freehand work. The first four questions are instrumental, and all construction lines are to be light or dotted. Marks will not be given when the results in the geometrical questions are obtained by *trial* instead of by construction, or when a mechanical method is employed in the freehand work.

ADVANCED A.A.

LATIN.

FRIDAY, JUNE 3RD :—MORNING, 9 TO 12.

Examiners,..... { REV. GEORGE CORNISH, LL.D.
A. JUDSON EATON, M.A., PH.D.
REV. G. ABBOTT SMITH, B.A.

(A) TRANSLATION.

I. Tum breviter Dido, *voltum* demissa, profatur:
"Solvite corde metum, Teucri, sécludite curas.
Res dura et regni novitas me talia cogunt
moliri, et late *finis* custode tueri.

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Quis genus Aeneadum, quis Troiae nesciat urbem,
virtutesque virosque, aut tanti incendia belli?
Non obtusa adeo gestamus pectora Poeni;
nec tam aversus equos Tyria Sol iungit ab urbe.
Seu vos Hesperiam magnam Saturniaque arva,
sive Erycis finis regemque optatis Acesten,
auxilio tutos dimittam, opibusque iuvabo.
voltis et his mecum pariter considere regnis;
urbem quam statuo, vestra est: subducite navis;
Tros Tyriusque mihi nullo discrimine agetur.
atque utinam rex ipse, Noto compulsus eodem,
adforet Aeneas!—VIRGIL, AEN. I.

II. Si te parentes *timerent* atque odissent tui neque eos ulla ratione placare posses, ut opinor, ab eorum oculis aliquo *concederes:* nunc te patria, quae communis est parens omnium nostrum, odit ac metuit et iam diu te nihil iudicat nisi de parricido suo cogitare: huius tu neque auctoritatem verebere nec iudicium sequere nec vim pertimesces? Quae tecum, Catilina, sic agit et quodam modo tacita loquitur: Nullum iam aliquot annis facinus exstitit nisi per te, nullum flagitium sine te: tibi uni multorum civium neces, tibi vexatio direptioque sociorum impunita fuit ac libera: tu non solum *ad negligendas leges* et quaestiones, verum etiam ad evertendas perfringendasque valuisti.—CICERO IN CATILINAM, I. 17.

III. Ac si quis est talis, *qualis* esse *omnis* oportebat, qui in hoc ipso in quo exsultat et triumphat oratio mea, me vehementer *accuset*, quod tam capitalem hostem non *comprehenderim* potius quam emiserim, non est ista mea culpa sed temporum. Interfectum esse L. Catilinam et gravissimo supplicio adfectum iam pridem oportebat, idque a me et mos maiorum et huius imperi severitas et res publica postulabat. Sed quam multos fuisse putatis qui quae ego *deferrem* non *crederent?*

Cum ille, homo audacissmus, conscientia convictus, primo reticuisset, patefeci cetera: quid ea nocte *egisset*, quid in proximam constituisset, quem ad modum esset *ei* ratio totius belli descripta, edocui. Cum haesitaret cum teneretur, quaesivi quid dubitaret *procifisci* eo, quo iam pridem *pararet*, cum arma, cum securis, cum fascis, cum aquilam illam argenteam, cui etiam sacrarium *domi suae* fecerat, scirem esse praemissam.—CICERO IN CATILINAM, II. 3 and 13.

(B) TRANSLATION AT SIGHT.

1. Caesar at Paris.

Itaque nondum hieme confecta proximis quattuor coactis legionibus de improviso in fines Nerviorum contendit et, priusquam illi aut convenire aut profugere possent, magno pecoris atque hominum numero capto atque ea praeda militibus concessa vastatisque agris in deditionem venire atque obsides sibi dare coëgit. Eo celeriter confecto negotio

rursus in hiberna legiones reduxit. Concilio Galliae primo vere, ut instituerat, indicto, cum reliqui praeter Senones, Carnutes Treverosque venissent, initium belli ac defectionis hoc esse arbitratus, ut omnia postponere videretur, concilium Lutetiam Parisiorum transfert. Confines erant hi Senonibus civitatemque patrum memoria coniunxerant, sed ab hoc consilio afuisse existimabantur. Hac re pro suggestu* pronuntiata eodem die cum legionibus in Senones profisciscitur magnisque itineribus eo pervenit.

II. Miltiades commands the colony to the Chersonesus.

Accidit, ut Athenienses Chersonesum colonos vellent mittere Cuius generis cum magnus numerus esset, et multi eius demigrationis peterent societatem, ex his delecti Delphos missi sunt, qui consulerent Apollinem quo potissimum duce uterentur. Namque tum Thraces eas regiones tenebant, cum quibus armis erat dimicandum. his consulentibus nominatim Pythia praecepit, ut Militiadem imperatorem sibi sumerent: id si fecissent, incepta prospera futura. hoc oraculi responso Miltiades cum delecta manu classe Chersonesum profectus cum accessisset Lemnum et incolas eius insulae sub potestatem redigere vellet Atheniensium, idque Lemnii sua sponte facerent, postulasset, illi irridentes responderunt, tum id se facturos, cum ille domo navibus proficiscens vento aquilone venisset Lemnum. hic enim ventus ab septentrionibus oriens adversum tenet Athenis proficiscentibus. Miltiades morandi tempus non habens cursum direxit, quo tendebat, pervenitque Chersonesum.

*. *Suggestus*, a platform.

(C) Latin Grammar and Composition.

1. Explain what is meant by the Objective Genitive, and the Ablative of Quality, and give an example of each.

2. Compare *vetus*, *frugi*, *malus*. Decline *acer*.

3. Give the mood and tense of each of the following forms, and state to which conjugation each verb belongs: *edam*, *currebatis*, *ameris*, *quaesierat*, *scistis*, *nosse*, *dixte*.

4. *Hostibus victis Caesar Italiam profectus est*, what principle of syntax is violated here? Explain why *ignoscor* is not to be written for "*I am pardoned.*"

5. Explain carefully the grammatical construction of italicized words in passages for translation under (A), stating where you can the rule in full.

I.

6. Translate into Latin:—

(*a*) The result was that Orgetorix was able to persuade the Helvetii to emigrate. (*b*) There is a suspicion that he died by his own hand. (*c*) The corn, moreover, which they did not intend to carry with them, they ordered to be burned. (*d*) If you desire anything, you may return on the 13th of April. (*e*) He completed these preparations so that he might the more easily prevent the enemy from crossing.

II.

A little before light on the seventh of November, two Roman knights went to Cicero's house for the purpose of killing him in his bed. For that very night, in an assembly at Laeca's, on Catiline's saying that he could not go out of the city because Cicero was living, they had promised to relieve him of that anxiety. But the consul had found out their intentions, and predicted to many most eminent men that they would come at that very time. Afterwards, in the most august assembly of the world, he consulted those same men, whom he ought to have put to death with the sword, about the state of public affairs.

ADVANCED A.A.

FRENCH.

WEDNESDAY, JUNE 1ST:—AFTERNOON, 2 TO 4.

Examiners, ... { Prof. P. J. DAREY, M.A., LL.D., Officier d'Académie. / REV. J. L. MORIN, M.A.

1. Quand Lamartine publia-t-il *Jeanne d'Arc*?

2. Ecrivez une courte biographie de Lamartine.

3. Faites un court résumé de la vie de *Jeanne d'Arc*.

4. Pourquoi Jeanne d'Arc fut-elle portée à prendre les armes en faveur de son roi?

5. Racontez le jugement de Jeanne d'Arc.

6. Que pensez-vous du style de *Jeanne d'Arc*?

7. Traduisez les expressions suivantes tirées de *Jeanne d'Arc*:

Il l'accusa de souffler cette scélérate. Un roi de nom. Le flux et le reflux. Le Dauphin reprit la campagne. Aucune matrone de Rouen n'aurait pu lui en remontrer de plus. Quelques-uns même délibérèrent s'ils ne s'en déferaient pas en route. Le cordelier couvait de jaloux ombrages contre elle. La flèche sortait de deux largeurs de main derrière l'épaule.

8. Quelle espèce de comédie est le Bourgeois Gentilhomme?

9. Faites le résumé des deux premiers actes.

10. Traduisez en anglais :—

M. de Maupassant a l'extrême clarté dans le récit et dans la peinture de ses personnages. Il distingue et met en relief avec un grand art de simplification et une singulière sûreté les traits essentiels de leur physionomie. Quelqu'entêté de psychologie dira : Ce n'est pas étonnant ; ils sont si peu compliqués ! Et encore il ne les peint que par l'extérieur, par leurs démarches et leurs actes !—Il a encore un autre mérite. Il a au plus haut point l'art de la composition, l'art de tout subordonner à quelque chose d'essentiel, à une idée, à une situation, en sorte que d'abord tout la prépare, et que tout ensuite contribue à la rendre plus singulière et plus frappante et à en épuiser les effets.—JULES LEMAITRE.

11. Traduisez en français :—

We were now prevented from further conversation by the arrival of the gaoler's servants, who came to call over the prisoners' names, and lock up for the night. A fellow also, with a bundle of straw for my bed, attended, who led me along a dark, narrow passage into a room paved like a common prison, and in one corner of this I spread my bed and the clothes given me by my fellow-prisoner ; which done, my conductor, who was civil enough, bade me a good night. After my usual meditations, and having praised my heavenly Corrector, I laid myself down, and slept with the utmost tranquillity until morning.

The Vicar of Wakefield.

12. When would you translate : *there is* by *voilà* and when by *il y a? Since* by *depuis* and when by *puisque?* Give sentences where you would use those four words. Write down the third person singular of *conclure*, *joindre*, *s'enquérir*, *pourvoir*, *craindre*, *vaincre* of the Imperfect Subjunctive. Write correctly the past participles : Où avez-vous *vu* mes enfants? Je les ai *vu* à dix pas d'ici. Nous nous sommes *rencontré*, mais nous ne nous sommes pas *parlé*. Give the rules in each case.

Dictée : (Pour les Maitres seuls) :—

Dickens ne décrit point, comme Walter Scott, pour offrir une carte de geographie au lecteur et pour faire la topographie de son drame. Il ne décrit point comme Lord Byron par amour de la magnifique nature et pour étaler une suite de tableaux grandioses. Il ne songe ni à obtenir l'exactitude ni à choisir la beauté. Frappé d'un spectacle quelconque, il s'exalte et éclate en figures imprévues. Tantôt ce sont les feuilles jaunies que le vent poursuit, et qui s'enfuient en se culbutant, frisonnantes, effarées d'une course éperdue ; se collant aux sillons, se noyant dans les fossés, se perchant sur les arbres. Ici, c'est le vent de la nuit qui tourne autour d'une église, qui tâte, en gémissant, de sa main invisible les fenêtres et les portes, qui s'enfonce dans les crevasses, et qui renfermé dans sa maison de pierre, hurle et se lamente pour sortir.—TAINE.

ADVANCED A.A.

GERMAN.

TUESDAY, 7TH JUNE :—AFTERNOON, 3.30 TO 5.

Examiner, ... P. T. LAFLEUR, M.A.

1. Translate :—

(*a*) Denn heiss erregte mir das Herz
Des Landes frisch erneuter Schmerz;
Zerrissen fand man jüngst die Hirten,
Die nach dem Sumpfe sich verirrten,
Und ich beschliesse rasch die That,
Nur von dem Herzen nehm'ich Rath.
Flugs unterricht'ich meine Knappen,
Besteige den versuchten Rappen,
Und von dem edlen Doggenpaar
Begleitet, auf geheimen Wegen,
Wo meiner That kein Zeuge war,
Reit, ich dem Feinde frisch entgegen.
. . . . . .

Des Beifalls lang gehemmte Lust
Befreit jetzt aller Hörer Brust,
So wie der Ritter dies gesprochen;
Und zehnfach am Gewölb gebrochen
Wälzt der vermischten Stimmen Schall
Sich brausend fort im Wiederhall

(*b*) *Conti.* Und eines jeden Empfindung sollte erst auf den Ausspruch eines Malers warten?—In's Kloster mit dem, der es von uns lernen will, was schön ist! Aber das musz ich Ihnen doch als Maler sagen, mein Prinz; eine von den grösten Gluckseligkeiten meines Lebens ist es, dass Emilia Galotti mir gesessen. Dieser Kopf, dieses Antlitz, diese Stirne, diese Augen, diese Nase, Dieser Mund, dieses Kinn, dieserganze Ban, sind von der Zeit an, mein einziges Studium der weiblichen Schönheit. Die Schilderei selbst, wovor sie gesessen, hat ihr abwesender Vater bekommen.

(*c*) *Marinelli.*—Als ich sah dass weder ernst noch Spott den Grafen bewegen konnte, seine Liebe der Ehre nachzusetzen, versucht'ich es, ihn in Harnisch zu jagen. Ich sagte ihm Dinge, über die er sich vergass; er stiess Beleidigungen gegen mich aus, und ich forderte Genugthuung—und forderte sie gleich auf der Stelle.

2. Write four verbs of motion that may take *sein* and *haben* as auxiliaries. When do they take the one or the other? Give examples.

3. Give four rules, with examples, for the employment of the subjunctive mood.

4. Classify the conjunctions, as regards their influence on the construction of the sentence.

5. Translate into German :—

(*a*) A few years ago, there dwelt on the edge of the Black Forest an old man and his wife, whose children had all left them in order to seek work elsewhere. Some of them had gone into cities; others worked with peasants in the fields or in the vineyards near the Rhine; the youngest had become a sailor, and from him the old parents had never received a single letter, not even a word, since his departure.

(*b*) Nothing is easier than to blame others; but one must always remember that those who speak severely of others will also receive severe judgment from them.

(*c*) Here, during the summer, the city is very quiet; many people leave their comfortable houses in order to seek fresh air in the country or at the seaside.

ADVANCED A.A.

GEOMETRY.

THURSDAY, JUNE 2ND :—AFTERNOON, 2 TO 4.

Examiners,..... { REV. PRINCIPAL ADAMS, D.C.L.
G. H. CHANDLER, M.A.

1. To make a parallelogram with a given angle equal in area to a given rectilineal figure.

(*a*) Find by geometry the length of the side of a square which is treble the area of a given square.

2. *A B C* is a triangle, *A* an acute angle, *C D* is perpendicular to the line of *A B*; prove that the squares on the sides *C A* and *A B* are together greater than the square on *C B* by twice the rectangle *B A, A D*.

(*a*) *A B C* is a triangle, *C E* bisects the base *A B* in *E*, prove that squares on *A C*, *C B* together equal twice the squares on *A E* and *C E* together.

3. No two circles can touch in more than one point internally or externally.

(*a*) Prove that all equal chords of a given length are touched by a concentric circle.

4. About a triangle *A B C* to describe a circle—(three figures).

(*a*) *A B C* is a triangle in which each angle *B* and *C* is double of *A*; shew that half of *A* is one-fifth of a right angle.

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5. Give Euclid's definitions of Proportionals. Prove that triangles and parallelograms of the same altitude are to one another as their bases. Where else is the definition used in Book VI.?

6. $A\,B$ and $C\,D$ are two straight lines:

(a) Find a mean proportional between them.

(b) Find a third proportional to them.

(c) If x be the mean proportional and y the 3rd proportional, prove that $C\,D$ has to y the duplicate ratio of $A\,B$ to x.

7. Two triangles have one angle in each equal:

(a) If the sides about the equal angles are proportional, the triangles are similar.

(b) If the sides about the equal angles are *reciprocally* proportional the triangles are equal in area.

(c) What is the condition that the triangles shall be both similar and equal?

ADVANCED A.A.

ALGEBRA.

WEDNESDAY, JUNE 1ST:—AFTERNOON, 2 TO 3.30.

Examiners, ... { REV. PRINCIPAL ADAMS, D.C.L. / G. H. CHANDLER, M.A. / W. MORRIS, LL B. / H. M. TORY, B.A.

1. Define Harmonical Progression, and find the harmonic mean between two numbers a and b.

2. Given a the first term of a number of terms in Geometrical progression, r the common ratio, and n the number of terms. Show that S the sum of the terms is equal to $\frac{a\,(r^n-1)}{r-1}$

3. Find the continued product of $3\sqrt{8}$, $2\sqrt[3]{6}$, $3\sqrt[4]{54}$.

4. Solve $\sqrt{x+14}+\sqrt{x-14}=14$.

5. Solve $x^3-y^3=19$.
$x-y=1$

6. Solve the equation $ax^2+bx+c=0$
When are the roots equal?

7. Find the G. C. M. and L. C. M. of
x^2+2x-3 and x^3+3x^2-x-3.

8. Find the factors of x^2-x-6, x^6+y^6, $(3x-2)^2-(x-3)^2$, $8b^3-27c^3$.

ADVANCED F.A.

ENGLISH LANGUAGE.

Lounsbury :—*History of the English Language.*

Mason :—*English Grammar and Composition.*

WEDNESDAY, JUNE 8TH :—3.30 TO 5.30 P.M.

Examiners, ... { JOHN L. DAY, B.A. / REV. PRINCIPAL ADAMS, D.C.L. / P. T. LAFLEUR, M.A. / REV. J. HEPBURN, M.A. / REV. R. HEWTON, M.A.

1. Institute a comparison between Anglo-Saxon and Modern English.

2. (*a*) Show the influence of Latin upon the English of the Anglo-Saxon period. (*β*) Refer the following words (1) to their origin and (2) to the respective periods of introduction :—*brisket, regular, clan, chancellor, Bible, are, faction.*

3. Notes on :—Black letter ; *Kine ; y-wi ;* rhotacism ; comparison by means of *more* and *most ; molten ;* Runes.

4. Comment fully on the influence of the Norman conquest in the English Language (First Period).

5. The most important changes in grammar between Anglo-Saxon and Middle English.

6. "Higden asserted distinctly the existence of three leading dialects of his time." Explain and differentiate.

7. Trace the third personal pronoun in the various declensions through which it has passed, and indicate the differences in its employment in the respective periods of the language.

8. Remark upon the following forms of the verb, and refer them to the particular period to which they severally belong :—*singan* (infin. mood) ; *wrote* (for *written*) ; *strought* (preterite of *stretch*) ; *singeth* (1st per. plural) ; I *says ; coude* (preterite of *can*) ; wo(*worth ; aron* (plur. of pres-indic.) ; *wert* (2nd sing., preterite).

9. Define :—Anapæstic ; metaphor ; complementary infinitive ; reflexive pronoun ; nominative absolute.

10. (*a*) The formation and classification of adverbs, and their position in the sentence. (*b*) Distinguish between the auxiliary verbs which denote (1) potentiality and (2) obligation.

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11. Analysis :—

As when the potent rod
Of Amram's son in Egypt's evil day
Waved round the coast, up-call'd a pitchy cloud
Of locusts, warping on the eastern wind,
That o'er the realm of impious Pharaoh hung
Like night, and darkened all the land of Nile,
So numberless were those bad angels seen
Hovering on wing under the cope of Hell
'Twixt upper, nether, and surrounding fires.—(*Milton*).

12. A composition on one of the following subjects :—

The progress of science.
Character.
The study of history.

ADVANCED A.A.

ENGLISH LITERATURE.

MONDAY, 6TH JUNE :—AFTERNOON, 2 TO 3.30.

Examiners,..... { REV. PRINCIPAL ADAMS, D.C.L.
P. T. LAFLEUR, M.A.
REV. J. HEPBURN, M.A.
REV. R. HEWTON, M.A.
JOHN L. DAY, B.A.

(Not more than two questions are to be answered from each division.)

I. GENERAL.

1. Give a short account of the life, works and style of Alexander Pope and Joseph Addison.

2. Name two works, two contemporaries, and two dates of events in the life of the following :

Geoffrey Chaucer, William Shakespeare, James Thomson, William Cowper, S. T. Coleridge.

Also give a list of six very leading writers, one or other of whom has been alive since the time of Shakespeare.

3. Give the name of the author of the following works, and make one critical statement about the work or about the author in each case : The Bruce, The Schoolmaster, Ecclesiastical Polity, Leviathan, Hudibras, Dunciad, Vicar of Wakefield, Confessions of an Opium Eater, Adonais Lays of Ancient Rome.

II. Elizabethan Period.

4. Give a careful estimate of Francis Bacon's literary work.

5. Give a list of the non-dramatic works of Shakespeare, and criticise them. What would have been his position in literature if these had been the whole of his works?

6. Give a sketch of the life and work of Edmund Spenser and Walter Raleigh, and relate anything in which they were connected.

III. Paradise Lost, Bks. I, II.

7. Give a general sketch of the argument of Book II.

8. Give notes on the following, quoting the line in which each occurs if you can: Aonian Mount; if thou *beest* he; burning *marle*, Pelorus, the Tuscan artist, Ashtaroth, Ashtoreth, Dodona, Phlegra, Charlemain, Lemnos, Taurus.

9. Annotate: Ind, Belial (describe fully), Forced hallelujahs, "than whom, Satan except, none higher sat," Atlantean, Synod of gods, Acheron-chaos—(what service did he render to Satan)?

ADVANCED A.A.

HISTORY.

Tuesday, June 7th:—Afternoon, 2 to 3.30.

Examiners, ... { P. T. Lafleur, M.A.; Rev. Principal Adams, D.C.L.; Rev. R. Hewton, M.A.; Rev. J. Hepburn, M.A.; John L. Day, B.A.

1. Give an account of *one* engagement on sea, and *one* on land, fought by the Greeks against the forces of Xerxes. Contrast the Greeks with the Persians, as regards, (*a*) manner of fighting, (*b*) civilisation, (*c*) religion.

2. State the chief causes of the Peloponnesian war, and the events that led to its breaking out. Give the names of the principal leaders engaged on both sides, with some account of any *one*.

3. Write short notes on Mithridates, Catiline, Octavianus, Arminius, Cato.

4. Give, in their order of conquest, the names, both ancient and modern, of the countries overcome by the Roman armies under Julius Caesar; and an outline account, with dates, of the attack and subjugation of any *one*.

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5. Explain briefly how the Roman Empire took the place of the Republic; and give an idea of the extent, power, and systematic organization of the empire in the days of Tiberius.

6. How do you account for the fact that the Protestant Reformation made rapid headway in England? Give the names of five principal martyrs in the reigns of Henry VIII and Mary, and distinguish between those who suffered partly for political reasons and those who fell victims chiefly on the ground of religion.

7. Who were the Duke of Alva, the Regent Murray, Francis Bacon, the Duke of Medina Sidonia, Hooker, Wentworth (Strafford)?

8. Contrast England under Elizabeth with England under the Protectorate, as regards (*a*) foreign conquest, (*b*) social life, (*c*) amusements, (*d*) literature, (*e*) religion.

ADVANCED A.A.

BOTANY.

TUESDAY, JUNE 7TH:—3.30 TO 5 P.M.

Examiner,.....D. P. PENHALLOW, B. Sc.

Group I.

1. Explain the composition of the embryo, and show what principal variations it exhibits.

2. Explain the characteristics of epiphytes and parasites. Give examples.

3. Give the leading characteristics of roots, and show how many types may be distinguished as to form and time of origin.

4. Show how leaves are to be distinguished from leaf-like branches.

Group II.

5. Explain the distinction between sap wood and heart wood and the relative value of each.

6. Outline the characteristics of an exogenous plant.

7. What is dimorphism and its use? Give an example.

8. Explain fully what is understood by the terms close and cross fertilization; examples.

Group III.

9. Give proof showing that the parts of a flower are transformed leaves.

10. Explain the distinction between a species and a variety.

11. Outline a natural system of classification. What is the object of classification?

12. Analysis of the specimens given, with reference to the family, genus and species.

The Candidate will answer six questions including number twelve, selecting two from each group.

Examiners will please supply any common wild flower, and take particular care that ALL PARTS OF THE PLANT are present.

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